

WESTERN WASHINGTON UNIVERSITY BULLETIN



GENERAL CATALOG 1991/93

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Every effort has been made to provide accurate information in this catalog. Policies and information contained herein, however, may have changed subsequent to the time of publication. Readers are therefore advised to consult with the appropriate University department or office for any possible revisions. For information, call the University at (206) 676-3000.



WESTERN WASHINGTON UNIVERSITY BULLETIN
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Western Washington University emphasizes excellence in undergraduate education and in selected graduate programs. The University is large enough to offer a wide range of high quality programs and small enough to focus its resources on individual students. Faculty, students, and staff work closely together in a superb setting to pursue a university education and build career skills on the sound foundation of the arts, humanities, sciences and professional studies.

The pages which follow suggest the extraordinary opportunities available to a Western student: facilities such as the Willson Library, the marine laboratory, the computer center, and the Performing Arts Center; distinguished programs as wide ranging as vehicle technology, music, environmental studies, journalism, business and education; art and architecture created by such as Noguchi, Caro, Bassetti and Ibsen Nelson. The University occupies a forested hill above Bellingham Bay and the city with views of the San Juan Islands, Mt. Baker, and the Canadian and Cascade mountain ranges.

The campus is a stunning blend of art and nature. It has been called "magic." Its visual power signals the power of the educational opportunity offered to Western students. An accomplished faculty makes undergraduate education its primary mission. Western students engage in the great tradition of the arts and sciences, fostering values such as clarity of thought and expression, informed judgment, aesthetic sensibility, tolerance for ambiguity, a sensitivity to cultural differences, and a sense of historical continuity. Upon these values Western students build for the future, choosing from a wide range of professional programs which foster the knowledge and skills demanded by today's careers.

Western Washington University reflects the high aspirations of Washington citizens for educational excellence. For students, faculty and staff Western thus embodies an opportunity and a challenge.

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The University

Western Washington University is located in Bellingham, a city of 50,000 in the northwestern corner of the state near the Canadian border. Its historical antecedent was the New Whatcom State Normal School, established by the legislature in 1893, which offered its first courses in the fall of 1899. From a normal school the institution evolved into a degree-granting institution in 1933, college of education in 1937, state college in 1961, and a university in 1977.

ACADEMIC PROGRAMS AND DEGREES

Western Washington University is organized into a Graduate School and six undergraduate colleges: College of Arts and Sciences, College of Business and Economics, College of Fine and Performing Arts, Fairhaven College, Huxley College of Environmental Studies and Woodring College of Education.

To fulfill its academic objectives, Western's curriculum includes a program of broad general education; intensive studies designed to develop scholarly competence in the arts and sciences; professional programs for both public school personnel and a variety of other professionals; and graduate programs in professional education, the arts and the sciences.

Western's undergraduate and graduate programs lead to the following degrees:

- Bachelor of Arts
- Bachelor of Arts in Education
- Bachelor of Fine Arts
- Bachelor of Music
- Bachelor of Science
- Master of Arts
- Master of Business Administration
- Master of Education
- Master of Music
- Master of Science

ACCREDITATION

The University is accredited by both the Northwest Association of Schools and Colleges and the National Council for the Accreditation of Teacher Education to offer work at the bachelor's and master's degree levels. The University holds membership in the Council of Graduate Schools in the United States.

RESEARCH

At Western, faculty research and the training of students in scientific and scholarly methods and techniques have received considerable impetus through foundation and government grants. Awards have been made by a wide range of agencies and foundations, including the National Institutes of Health, National Endowment for the Arts, National Science Foundation, Department of Education, Environmental Protection Agency, Canadian Embassy, Readers' Digest, National Endowment for the Humanities, USDA Forest Service, National Wildlife Federation, National Geographic Society, Chrysler Motors Corporation, American Chemical Society, National Park Service, Apple Computer, Inc., Office of Naval Research, U.S. Small Business Administration and agencies of the State of Washington and the federal government.

The Bureau for Faculty Research was established to encourage and coordinate faculty research and creative scholarly endeavor throughout the University. The bureau assists the faculty in obtaining funds for development and research, and provides manuscript typing and other services.

ACADEMIC FACILITIES

The main campus and its 77 buildings occupy 190 acres along Sehome Hill overlooking Bellingham Bay and downtown Bellingham. Other University properties, such as the marine laboratory at Shannon Point near Anacortes, support regional educational and conservancy programs.

The University has on-campus residence halls and student apartments for over 3,600 students.

The beautiful natural setting of the main campus and its award-winning architecture make Western Washington University a stimulating place for work and study.

The Libraries

The Mabel Zoe Wilson Library houses 550,000 volumes of books and periodicals, more than 1,000,000 units of microforms, and large collections of government documents, curriculum materials, pamphlets, sound recordings and videotapes. There are subscriptions to 4,000 current periodicals and newspapers. Wilson Library provides open stacks for its collections together with reading and study areas, carrels and group study rooms.

The Music Library in the Performing Arts Center provides a large collection of scores and recordings as well as books and journals about music. The Libraries offer reference service, computerized information retrieval and interlibrary loan service. Members of the Library Faculty offer instruction in effective use of the library.

Computing Facilities

The primary instruction and research computer facilities are Digital Equipment Corporation and VAX 8650 VMS and VAX 780 Unix interactive timesharing computers and

approximately 150 terminals and 250 microcomputers in public clusters. There are approximately 100 terminals and 400 microcomputers in academic department laboratories and offices. The University also operates an administrative timesharing computer supporting roughly 200 terminals and 300 microcomputers in administrative offices. Most microcomputers are Apple and IBM-compatible.

There is no charge to students for most computer services. Word-processing facilities are available at cost.

Western Gallery and Outdoor Sculpture Collection

Western Washington University is committed to the concept of art in the living environment. The widely known Outdoor Sculpture Collection includes works by international, national and regional artists. Students and visitors can view large-scale works by such artists as Alice Aycock, Anthony Caro, Mark di Suvero, Lloyd Hamrol, Nancy Holt, Donald Judd, Robert Morris, Isamu Noguchi, Beverly Pepper and Richard Serra. Public and private tours are provided. Plans are being made for additions to the collection during the 1990s.

The Western Gallery, in a wing of the Fine Arts Complex near the center of the campus, has 4,500 square feet of exhibition space with sophisticated climate control. Additional preparation, work and storage areas occupy over 2,000 square feet. Normally, the Western Gallery presents two major exhibitions per quarter. Public tours and special lectures are arranged for each exhibition, and faculty members also use each exhibition as a focal point for special seminars and exercises in written analysis and criticism.

Shannon Point Marine Center

Located on an 87-acre campus in Anacortes, Washington, the Shannon Point Marine Center provides facilities and programs for undergraduate and graduate students to study the marine and estuarine environments. Programs include a spring quarter-in-residence in which WWU students can register for a full credit load of marine science courses, a Summer Undergraduate Research Participation program, a Minorities in Marine Science undergraduate program during winter and spring quarters, a marine and estuarine sciences graduate option, and workshops on specialized research techniques. Facilities also support the research of graduate

students and faculty from WWU, as well as visiting scientists from around the country. Facilities include wet and dry laboratories, an analytical chemistry laboratory, a radioisotope laboratory, 50 seawater tanks supplied by a running seawater system, a wide variety of analytical instrumentation, a research vessel fleet, gear for field sampling and lecture rooms. There are housing and dining facilities for 20 people.

The Shannon Point Marine Center of Western Washington University provides a marine outlet for the Shannon Point Marine Center Consortium of Western, and Eastern Washington Universities, and Skagit Valley, Everett and Edmonds community colleges.



**1991-92
ACADEMIC YEAR**

Fall Quarter 1991

September 23-25
Registration
September 26 (Thursday), 8:00 a.m.
Classes begin
November 27, Noon — December 2,
8:00 a.m.
Thanksgiving recess
December 9-13
Final examination week
December 14 (Saturday)
Commencement

Winter Quarter 1992

January 6 (Monday)
Registration
January 7 (Tuesday) 8:00 a.m.
Classes begin
January 20 (Monday)
Martin Luther King, Jr., Day
February 17 (Monday)
Presidents' Day Holiday
March 16-20
Final examination week
March 21 (Saturday)
Commencement

Spring Quarter 1992

March 30 (Monday)
Registration
March 31 (Tuesday) 8:00 a.m.
Classes begin
May 25 (Monday)
Memorial Day Holiday
June 8-12
Final examination week
June 13 (Saturday)
Commencement

Summer Quarter 1992

June 22 — July 31
Six-Week Session
June 22 — August 21
Nine-Week Session
June 22 (Monday)
Registration
June 23 (Tuesday)
Classes begin
July 3 (Friday)
Independence Day Holiday
August 22 (Saturday)
Commencement

**1992-93
ACADEMIC YEAR**

Fall Quarter 1992

September 21-23
Registration
September 24 (Thursday), 8:00 a.m.
Classes begin
November 25, Noon — November 30,
8:00 a.m.
Thanksgiving recess
December 7-11
Final examination week
December 12 (Saturday)
Commencement

Winter Quarter 1993

January 4 (Monday)
Registration
January 5 (Tuesday), 8:00 a.m.
Classes begin
January 18 (Monday)
Martin Luther King, Jr., Day
February 15 (Monday)
Presidents' Day Holiday
March 15-19
Final examination week
March 20 (Saturday)
Commencement

Spring Quarter 1993

March 29 (Monday)
Registration
March 30 (Tuesday), 8:00 a.m.
Classes begin
May 31 (Monday)
Memorial Day Holiday
June 7-11
Final examination week
June 12 (Saturday)
Commencement

Summer Quarter 1993

June 21 — July 30
Six-Week Session
June 21 — August 20
Nine-Week Session
June 21 (Monday)
Registration
June 22 (Tuesday)
Classes begin
July 5 (Monday)
Independence Day Holiday
August 21 (Saturday)
Commencement

* These calendars are subject to change. Dates appearing in Admissions or Registration or employee instructions take precedence over those in the University catalog.

1991

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Undergraduate Admission

Old Main 200, (206) 676-3440

Every effort has been made to provide accurate information regarding admission policies and procedures. However, these policies and procedures may have changed subsequent to the time of publication. Readers are therefore advised to consult with the Office of Admissions prior to making application.

GENERAL POLICY

Western Washington University's commitment to excellence recognizes the value of a student population reflecting academic achievement, cultural diversity and special talent. The University's admissions policy, therefore, permits the individual consideration of each applicant. Should the number of qualified applicants exceed the number of spaces available, the University may defer an admissions decision or select the most highly qualified candidates.

Admission standards are stated below in terms of the traditional A-F grading system. Applicants whose records include either a high proportion of non-traditional grades, or a subject pattern which departs markedly from that normally associated with university study, may be asked to submit additional evidence in support of their applications (i.e., entrance examinations, interviews and letters of recommendation).

Individuals may seek exceptions to any of the requirements below by petitioning the Admissions Committee to consider additional factors that may indicate college potential. A personal statement, explaining individual circumstances, should be submitted with the application for admission. Learning-disabled applicants, physically-disabled applicants, and first-time freshman over 21

years of age may be admitted through the use of alternative standards.

APPLICATION PROCEDURES

The Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington and an application fee of \$25 are required of freshman and transfer candidates. The application may be obtained from any Washington high school or college, or from the Office of Admissions at Western, Old Main 200. The application fee is not required of former Western students, who may obtain an Application for Registration as a returning student from the Office of Admissions.

Admission to Western's Colleges and Schools

Admission to the University does not imply admission to a particular academic program or enrollment in specific courses. Programs or courses having limited space may have supplemental admission requirements or waiting lists. Applicants are asked to designate clearly their intended major area of study on the application form. Formal declaration of major occurs after enrollment. (See appropriate catalog sections under academic departments and Western's Schools and Colleges for further details regarding special admission criteria, etc.)

Application Deadlines

High school applicants may apply after December 1 of their senior year. Transfer applicants may apply up to two quarters in advance of entry. To ensure full consideration, applications and official transcripts must be

received in the Office of Admissions before the following application deadline. Early application is encouraged.

Fall Quarter

- Freshman - March 1
- Transfer and Returning Students - April 1

Winter Quarter

- October 15

Spring Quarter

- January 15

Summer-Fall

- same as Fall above

Required Credentials

It is the responsibility of each applicant for admission or re-enrollment to submit official transcripts from each school or collegiate institution previously attended. (Transfer students who have earned 40 or more transferable quarter credits need not ordinarily submit a high school transcript.) To be considered official, these transcripts must be sent directly from the registrar's office of the previous school to the Office of Admissions at Western. All such documents must be received by the application deadline to ensure full consideration.



Test Scores

Freshman applicants and transfers with fewer than 40 credits must submit scores for the ACT, SAT or WPCT (if taken prior to June 1989). The scores are used in combination with the high school grade average to determine eligibility for admission.

NOTE: All entering students, except those who have taken a college calculus course, are required to complete a mathematics placement test before enrolling in a mathematics course at Western.

Accepting the Offer of Admission

Each admitted and readmitted student must confirm his or her intention to enroll by submitting a \$50 non-refundable, non-transferable payment on tuition and fees by the deadline indicated with the admission notice. This payment should not be made until requested by the University.

Health History

Entering students are required to submit a personal medical history. Forms for that purpose are forwarded to each new student who accepts an offer of admission.

FRESHMAN REQUIREMENTS

Western Washington University offers admission to individuals who give evidence of adequate preparation for success in university studies. An assessment of an applicant's eligibility for admission is based on the following criteria:

Pre-University High School Program

Admission is selective. To be considered for admission, applicants generally must have a minimum 2.50

Undergraduate Admissions

cumulative grade point average and a high school course pattern including:

English: Four complete years, selected from college preparatory composition and literature courses. Approved non-production and/or non-performance courses will qualify for a maximum of one of the four years.

Mathematics: Three complete years of college preparatory mathematics, including two complete years of algebra (pre-algebra does not count).

Science: Two complete years of college preparatory science, including one complete year of an algebra-based chemistry or physics course.

Social Studies: Three complete years of college preparatory social studies (e.g., history, government, politics, geography, current issues, civics, economics, sociology, psychology).

Foreign Language: Two complete years in a single foreign language, generally satisfied between the 9th and 12th grades.

Fine Arts: Beginning with applicants for fall quarter, 1992, one semester (two trimesters) is required. The other half-year may be either in the arts or in any of the previously listed academic areas.

Recommended Electives: The required core of courses listed above represents a minimal college preparatory program for admission to Western Washington University. To broaden their academic preparation and enhance their probability for success at the University level, prospective Western students are advised to select additional college preparatory electives from the following subject areas: art, computer science, debate, drama, English, foreign language, history, journalism, mathematics, music, science, speech.

Admissions Index

Freshman applicants who have completed the above course pattern are

ranked by means of an index combining the high school grade average with a standardized test score (the ACT, the SAT or the WPCT). This formula weights academic performance above test scores and was developed by the Higher Education Coordinating Board of the State of Washington.

TRANSFER STUDENT REQUIREMENTS

Transfer applicants are eligible for admission if they have earned a cumulative grade point average of 2.00 in college-level course work as well as a 2.00 during the last term before transfer. Students applying with fewer than 40 completed transferable quarter credits also must meet freshman admissions requirements.

Admission priority is given to graduates of approved Washington community college transfer degree programs. The quality of an applicant's record, number of transfer credits, nature of courses completed, consistency and available space also are considered.

TRANSFER POLICIES AND PROCEDURES

Western Washington University endorses the Higher Education Coordinating Board's *Policy on Inter-College Transfer and Articulation among Washington Public Colleges and Universities*. Copies of this document are available through all public postsecondary institutions in the State of Washington and in the Office of Admissions at Western. Detailed transfer information is listed in the *Transfer Advisers Handbook*, published annually by the Office of Admissions and distributed to public colleges and universities in the State of Washington. Transfer students encountering difficulties are encouraged to contact their designated transfer officer or the Office of Admissions.

Transfer of Credit

In general, Western Washington University routinely grants credit for baccalaureate oriented courses completed at accredited institutions of higher education. Transfer of credit policies are developed by the Committee on Admissions and Inter-College Relations. Authority to administer these policies is delegated to the Registrar, the Director of Admissions, and where applicability of transfer credit to a major or minor is concerned, to department chairpersons.

Several factors govern the acceptance of transfer credit. Chief among them is accreditation. For transfer purposes Western recognizes as accredited only those institutions which have received accreditation by the Regional Associations of Schools and Colleges.

The total number of credits which may be transferred from another institution may not exceed the level of accreditation granted to that institution. For example, the maximum credit transferable from two-year institutions is 90 quarter credits; that is, one half the number required for a baccalaureate degree at Western.

Regardless of the number of transfer credits awarded, the student must earn at least 45 resident credit hours through Western for graduation. (Note: Although the total transfer credit granted from two-year institutions is limited to 90, coursework that exceeds that number will be considered for its appropriateness in satisfying General University Requirements or particular subject area requirements at Western.)

Certain credits earned at previous institutions may not transfer regard-



Undergraduate Admissions

less of that institution's accreditation. For example, technical and vocational courses in two-year institutions, sectarian religious courses, and credit for experiential learning, military service, or the general examinations of the College Level Examination Program (CLEP) do not generally transfer to Western. Up to 30 credits may be granted for appropriate military schooling, according to recommendations contained in "A Guide to the Evaluation of Educational Experiences in the Armed Services." Subject examinations of CLEP may be reviewed by specific academic departments for credit.

Exceptions to the transfer of credit policies described above may be made only upon petition to the credit evaluation staff in the Registrar's Office after enrollment.

Transfer of Associate Degrees

Transfer students who complete the appropriate two-year degree at a Washington community college **prior** to enrollment at Western will ordinarily satisfy all of Western's General University Requirements upon enrollment. To be accepted in lieu of Western's General University Requirements, the associate degree must include at least 90 credits, 75 of which must be directly transferable to Western. Transferable courses are listed in the WWU Transfer Advisers' Handbook. Since the community colleges offer several degree programs, students should consult advisers for more complete information.

Postbaccalaureate Students

Students holding baccalaureate degrees from accredited colleges and universities may pursue additional undergraduate study leading to a second degree or a teaching certificate. The number of postbaccalaureate students admitted is subject to space availability. When space is limited, selection for admission may be based on grade average as well as intended curriculum.

READMISSION OF FORMER STUDENTS IN GOOD STANDING

Former Western students who have interrupted their studies for one or more quarters (except summer) must file an application for readmission available from the Office of Admissions. Students in good standing who have interrupted their studies by no more than two quarters (excluding summer) receive the highest priority for enrollment.

SPECIAL STUDENTS AND AUDITORS

Permission to enroll as a special student or auditor is granted for one term at a time on a space available basis and implies no commitment on the part of the University regarding later admission to a degree program.

Transcripts and test scores are not ordinarily required of non-matriculated students, although they are ordinarily expected to be able to satisfy regular admission requirements.

INTERNATIONAL STUDENTS

Western welcomes qualified students from countries around the world. Because of limited support services for international students, however, admission is generally restricted to those most highly qualified for academic study at Western. Such students must have completed the University preparatory program in their own countries, give evidence of ability to succeed in university study at Western, and demonstrate competence in the use of the English language. In addition to the above, students transferring from U.S. colleges or universities must also give evidence of strong academic achievement in the United States.

The Test of English as a Foreign Language (TOEFL) is ordinarily required of candidates from other countries in which English is not the language in general use. Transfer students may also establish proficiency through completion of transferable English composition courses.

International students must also be able to pay the cost of each year they plan to study at the University. Letters from sponsors, family members, or banking officials are required to demonstrate sufficient finances, since the University has very limited financial assistance for foreign students.

Because of the wide variety of educational systems throughout the world, there are no standard admission requirements for international students. Applications are reviewed on an individual basis, and admission is determined after an evaluation of all credentials associated with the student's academic qualifications for university study.

International students must complete the undergraduate international student application. Students currently not studying in the United States are eligible only for fall quarter admission, with an application deadline of March 1.



Registration

Old Main 230, (206) 676-3430

Registration for fall quarter takes place at the beginning of the term. For winter and spring quarters, there is a period of advance registration for continuing students, while new students register on the first day of the quarter.

Summerstart, a special orientation and registration program for new freshmen, is conducted during the summer preceding fall quarter. Each freshman student who has accepted an offer of admission will be sent complete information about this program.

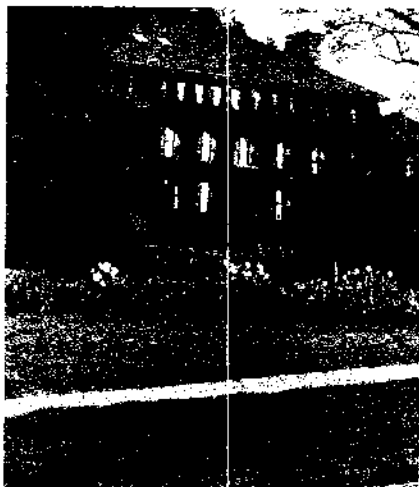
REGISTRATION AT START OF QUARTER

Registration takes place during the first three days of the fall quarter and on the first day of other quarters. (See the calendar at the front of this General Catalog.) On registration day new students and continuing students who did not advance register sign up for their courses and pay their fees. Before registration, each new student should have received additional information and instructions, including a date for his or her academic advisement and program planning conference.

Students may register through the first week of the quarter. However, entering classes late may cause difficulty.

ADVANCE REGISTRATION FOR WINTER AND SPRING QUARTERS

At mid-term during the fall and winter quarters, students at Western are given an opportunity to advance register for their next quarter's courses. This opportunity enables current



students to select their courses early and provides Western's faculty and the Registrar's Office with information important to planning.

Each student who advance registers receives a bill for fees, together with payment instructions. Because advance registration reserves a student's place in a course, payment must be made by the specified date prior to the beginning of the next quarter's courses or the student's registration is cancelled.

LATE REGISTRATION

Late registration is permitted only in exceptional cases. After the first five days of instruction in any quarter, a student may register for and enter a course only (a) by obtaining written permission from the course instructor, the department chairperson and the Registrar, and (b) by paying the late registration fee.

CHANGES IN REGISTRATION

Policies concerning changes in registration, such as withdrawal from a course or from the University, are described in the section entitled "University Academic Policies."

Tuition and Fees

Student Fiscal Services
(206) 676-2865

At Western the various expenses of a student who is single and a resident of the State of Washington are about \$2,687 each quarter.

Approximate Quarterly Expenses, 1991-92

Tuition and Fees	\$ 566
Room and Board	1,267
Books and Supplies	184
Personal Expenses	700

Below are actual costs of various expenses for several student categories and brief descriptions of the financial assistance available at Western through the Office of Student Financial Resources. (Room and board and financial aid at Western are discussed in later sections of this catalog.)

TUITION AND FEES

(Fees are subject to change as the result of action by the State Legislature or the Board of Trustees.)

By registering for classes, a student incurs a legal obligation to pay tuition and fees. This debt may be canceled only if the student officially withdraws from the University before the quarterly deadline published in the *Timetable of Classes*.

Quarterly Tuition and Fees — Ten or more credits

See "University Academic Policies" section of this catalog for an explanation of full-time status for such purposes as financial aid, athletic eligibility and veterans benefits.

1991-92

Student Classification	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	566
Non-Resident, General	1,990
Resident ¹ , Graduate	
Degree	900
Non-Resident, Graduate	
Degree	2,729

For each credit taken in excess of 18 (19 or more), the following schedule is applicable:

Student Classification	Quarterly Total
Resident ¹ , General	\$ 48
Non-Resident, General	190
Resident ¹ , Graduate	
Degree	81
Non-Resident, Graduate	
Degree	264

1992-93

Student Classification	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	595
Non-Resident, General	2,099
Resident ¹ , Graduate	
Degree	948
Non-Resident, Graduate	
Degree	2,880

*For Washington residents only

¹Residency—Under Washington State Law a resident student is defined as:

1. A financially independent student who has had a domicile in the State of Washington for the period of one year immediately prior to the time of commencement of the first day of the quarter for which he/she has registered and has in fact established a bona fide domicile in this state primarily for purposes other than educational, or
2. A financially dependent student, if one or both of his or her parents or legal guardians have maintained a bona fide domicile in the State of Washington for at least one year immediately prior to com-

mencement of the quarter for which the student has registered.

Further information regarding residency classification and statutory exemptions from the requirement to pay non-resident fees may be obtained from the Office of Admissions, Old Main 200. Individuals seeking a change in residency classification must obtain a residency questionnaire from the Office of Admissions, attach the required documentation, and submit it to the Office of Admissions before the beginning of the quarter for which a residency reclassification is requested. In the absence of a completed questionnaire and supporting documentation, an individual's residency classification will remain unchanged.

Tuition & Fees

For each credit taken in excess of 18 (19 or more), the following schedule is applicable:

<i>Student Classification</i>	<i>Quarterly Total</i>
Resident ¹ , General	\$ 50
Non-Resident, General	201
Resident ¹ , Graduate Degree	85
Non-Resident, Graduate Degree	279



Quarterly Tuition and Fees — Nine or fewer credits

1991-92

For each credit (minimum charge to students is for two credits):

Southeast Asian Veteran*	\$ 15
Resident ¹ , General	57
Non-Resident, General	199
Resident ¹ , Graduate	90
Non-Resident, Graduate	273

1992-93

Southeast Asian Veteran*	\$ 15
Resident ¹ , General	60
Non-Resident, General	210
Resident ¹ , Graduate	95
Non-Resident, Graduate	288

Auditors

Full fee-paying students (10 or more credits) may audit a course without an additional fee. Part-time students may audit courses by paying the auditor's fee of \$10 per credit.

University Extended Programs

Fees for courses offered through University Extended Programs and the Center for Regional Services vary in accordance with the nature of the course. The University Extended Programs bulletin describes charges in detail.

DESCRIPTION OF TUITION AND FEES

Tuition and fees are due at the time a student registers for classes. Due dates are published in the annual *Timetable of Classes*.

1991-92

	Tuition	Service & Activities Fee	Operations Fee
Res., Gen.	\$25.50	\$90.50	\$450.00
Non-Res., Gen.	98.50	90.50	1,801.00
Res., Grad.	25.50	90.50	784.00
Non-Res., Grad	98.50	90.50	2,540.00
SE Asia Vet.*	25.00	54.00	74.00

1992-93

	Tuition	Service & Activities Fee	Operations Fee
Res., Gen.	\$25.50	\$93.50	\$476.00
Non-Res., Gen.	98.50	93.50	1,907.00
Res., Grad.	25.50	93.50	829.00
Non-Res., Grad	98.50	93.50	2,688.00
SE Asia Vet.*	25.00	54.00	74.00

Tuition is used for the construction of academic facilities. It is not used for either Housing and Dining System buildings or support of the university's operating budget.

The Service and Activities Fee is used to amortize, in part, residence halls, dining halls, and student activities facilities; to provide the Associated Students administration; and to support student activities (theatre, forensics, musical activities, intramural and intercollegiate activities, etc.).

The Operations Fee, with the state's general fund appropriation, is used to support the instruction, library, student services, administration and maintenance functions of the University.

*For Washington residents only.

MISCELLANEOUS SERVICE CHARGES

Health Services

A mandatory fee of \$25 is charged per quarter to each student who registers for 6 or more credits of on-campus courses. (Subject to change.)

Parking

(For parking and traffic regulations, see Appendix I)

	Quarterly Total
On-campus parking	\$28
Peripheral parking	14
Motorcycle parking	7

Late Registration/Late Course Adds

A fee of \$10 is charged for deferring fee payment beyond the deadline listed in the Timetable of Classes.

A fee of \$10 is charged if a student registers after the fifth day of instruction in a quarter. A fee of \$5 is charged if a student adds a class after the fifth day of instruction. Either action requires written permission of the course instructor, department chairperson and Registrar.

Special Examination Charges

Course Challenge	\$25
	per course

Graduation Fees

Baccalaureate Degree	\$8
Master's Degree	5
Placement Service fee for student with prior degree who earns teaching certificate only	2
Initial Teacher Certificate	20

(Fees for teaching certificates are set by the State of Washington and are in addition to the graduation fees.)

Transcripts

Requests should be submitted to the Registrar's Office one week in advance of need.

Transcript Fees:

Unofficial Transcript	\$2
Official Transcript	3

Other Special Fees

In certain instances the University may charge special fees for services which normal budgets may not fund, such as music practice room rentals, purchase of special laboratory and studio supplies. These fees are listed in the *Timetable of Classes*.

REFUNDS OF FEES*

In ordinary circumstances, a student who formally withdraws before the sixth day of instruction in a quarter receives full refund of tuition and fees, except for the initial registration deposit required of new students.

A refund of one-half of tuition and fees, excepting course fees, is made to a student who withdraws on or after the sixth day of instruction, provided such withdrawal occurs within the first 30 calendar days following the first day of instruction. After the 30th day, no refunds are granted.

NOTE: The first \$50 of tuition and fees paid by newly admitted students, whether paid as a separate deposit to accept an offer of admission or as a part of total fees at the beginning of a quarter, is non-refundable.

Change in Student Status

A student who has paid part-time fees and who adds courses bringing the total credits to 10 or more will pay the balance between fees already paid and the full-time fee. A full fee-paying student who drops courses so that the remaining total of credits is nine or fewer will receive a refund of (a)

Tuition & Fees

the difference between the full and part-time fees if the change is made before the sixth day of instruction, or (b) one-half the difference if the change is made from the sixth day of instruction through the thirtieth calendar day following the first day of instruction.

Financial Obligations

Admission to or registration with the University, conferring of degrees and issuance of academic transcripts may be withheld for failure to meet

financial obligations to the University. (WAC 516-60-006, filed 11/17/72.)

When a Perkins Loan has been disbursed to a student while attending the University, failure to appear for an exit interview before graduation or withdrawal constitutes failure to meet a financial obligation and transcripts may be withheld.

**See the University Extended Programs bulletin and the Summer Session Bulletin for the refund policy of fees listed in these bulletins.*



Student Financial Resources

Old Main 240, (206) 676-3470

Western Washington University makes every effort to provide financial assistance to eligible applicants through loans, work, scholarships, grants or some combination of these student aid programs. It is expected that students will meet part of their needs through earnings from summer and school year employment, and that parents will contribute in proportion to their financial ability.

WHAT IS FINANCIAL AID

Financial aid is monetary assistance which is made available to help meet both direct and indirect educational costs. Direct educational costs include items such as tuition and fees, books and educational supplies. Indirect educational costs are those personal and living expenses incurred (room, board, laundry, entertainment, etc.)

There are four categories of financial aid programs.

Grants are gift aid and do not have to be repaid. They are awarded on the basis of financial need. Grants are normally available only to undergraduate students; however, some partial tuition and fee waivers are available to students in the master's degree programs. Additional information on individual grant programs can be found in the *Student Financial Planning Guide*, available from Student Financial Resources.

Scholarships usually are awarded on the basis of merit criteria but may have financial need criteria attached. WWU offers merit scholarships to entering freshmen, transfers and returning students in recognition of outstanding academic ability.

Entering students who are National Merit Finalists are guaranteed up to

\$1,000 in scholarship funding. Scholarships are available through University departments and colleges; in addition, the University recognizes exceptional minority students with a Minority Achievement Program scholarship. A list of scholarships, with brief descriptions of eligibility requirements, is included in the *Scholarship Prospectus* available from Student Financial Resources.

Educational Loans generally are subsidized by the federal government and carry an interest rate that varies (by program) from 5 to 12 percent. Payments may be deferred until after the student has left school in most programs. Western participates in the Perkins Loan, the Stafford Student Loan, the Parent's Loan to Undergraduate Students and the Supplemental Loan to Students. Additional information on individual student loan programs can be found in the *Student Financial Planning Guide*.

Student Employment involves employment opportunities both on campus and in the local community. Financial need may or may not be a prerequisite for employment, depending upon the employment program. Under College Work-Study, which is a form of financial assistance provided by federal and state governments, the employer pays a portion of the student employee's salary and the federal or state program picks up the balance. These types of incentives encourage employers to provide employment opportunities which otherwise might not be available to students. The University places a strong emphasis on providing quality work experiences for its students. On campus, 40 percent of the student employment opportunities are paraprofessional positions. Additional information regarding student employment programs can be found in the *Student Financial Planning Guide*.

Financial Resources

Community Service involves sharing of one's time, talent, hope and vision. Western Washington University encourages students to become involved in helping others. Whether it is health care, child care, mentoring youth, adopting a grandparent, literacy training, tutoring or assisting in community projects, student involvement can make a difference.

Community service and volunteer opportunities are available through Western's Student Employment/Volunteer Center and within the residence hall system.

WHEN AND HOW TO APPLY FOR FINANCIAL AID

To be considered for financial aid, the following application materials must be submitted: WWU Aid Application, College Scholarship Service's (CSS) Financial Aid Form (FAF) and Pell Grant Student Aid Report (SAR).

To ensure priority consideration, application materials must be received by Student Financial Resources not later than the 31st of March prior to the start of fall quarter. Applications received after the priority deadline will receive consideration on a funds-available basis.

Applicants for financial aid at WWU are considered for funding from a variety of federal, state and institutional aid programs. Applications are evaluated to determine each student's relative financial need, and awards are made with careful adherence to federal, state and institutional guidelines.

GENERAL ELIGIBILITY REQUIREMENTS FOR FINANCIAL AID

Students are eligible to be considered for financial assistance if they:

- Are a citizen or permanent resident of the United States.
- Demonstrate the "financial need" for assistance as determined by the College Scholarship Service and Western Washington University.*
- Are admitted to a degree or certificate-granting program at Western Washington University.
- Do not owe a refund on a previous grant or are not in default on a previous educational loan received at any institution of higher education.
- Have registered with the Selective Service if required to do so.
- Are enrolled for the minimum credit hours required:
 - 12 credit hours for full-time undergraduates. 10 credit hours for full-time master's degree candidates.
 - 6 credit hours for half-time undergraduates.
 - 5 credit hours for half-time master's degree candidates.
- Maintain satisfactory academic progress and have not already exhausted your eligibility under the maximum time frame component of Western Washington University's Satisfactory Academic Progress Policy. Please refer to Appendix J for additional information regarding satisfactory academic progress.

**Please refer to the Student Financial Planning Guide for an explanation regarding financial need, estimated cost of education at Western, student rights and responsibilities and a brief explanation of individual student aid programs.*

SUMMER FINANCIAL AID

Applicants for financial aid during summer quarter must submit the same application materials required during the regular academic year. These are the WWU Financial Aid Application, College Scholarship Service Financial Aid Form (FAF) and Pell Grant Student Aid Report (SAR). In addition, a separate summer appli-

cation is required. Financial assistance for summer quarter is limited to Pell Grant, Stafford Loans and Supplemental Loans. These programs are available only if the student applicant has not used his/her entire eligibility during the regular academic year. Summer applications will be available beginning March 1 with a deadline of May 1 immediately prior to the start of summer quarter.

Students wishing to be considered for financial assistance for summer quarter should contact Student Financial Resources regarding application deadlines and materials required for completion of an application.

FOR SHORT-TERM CASH-FLOW PROBLEMS

The Department of Student Financial Resources can assist in solving short-term cash-flow problems through a series of short-term loan programs.

Western Signature Loan

Currently enrolled students may borrow up to \$100 for up to 30 days to solve minor cash-flow problems. Signature loans accrue interest at the rate of 6 percent and must be paid in full within 30 days.

Western Institutional Loan

Currently enrolled students may borrow up to \$500 for a maximum of 120 days. The Institutional Loan accrues interest at the rate of 6 percent and is payable in monthly installments or in a lump sum payment on the 120th day. Students are encouraged to repay Institutional Loans as soon as possible since these loans are made from a revolving fund.

Western Short-Term Loan

This loan is designed to assist students who have submitted Stafford Loan applications to a private lender and are waiting for the proceeds to be

distributed. Students may borrow up to \$1,000 or the amount of the expected quarterly disbursement, whichever is lower, from the Short-Term Loan program. Interest accrues at six percent. The Short-Term Loan must be repaid on receipt of the Stafford Loan proceeds or within 120 days, whichever comes first.

Student Financial Resources reserves the right to refuse any of the short-term loan programs to students with a history of poor repayment.

WESTERN REPAYMENT POLICY

Overpayment occurs when a student has received more aid than is warranted. The most common reason for an overpayment is withdrawal of the student after financial aid has been received. When a student withdraws, the following procedure is followed:

- All aid is canceled for a student who withdraws prior to aid disbursement. The student is not held to satisfactory progress requirements for the quarter.
- A student who withdraws after aid is disbursed may be required to repay a portion of the aid disbursed. The Satisfactory Academic Progress policy is enforced.



Financial Resources

- The amount of aid required to be repaid is the total aid* disbursed directly to the student minus educational costs incurred up to the time of withdrawal. Educational costs are calculated as a prorated amount based on the percent of the quarter the student has attended. The following percentages are to be used to calculate the amount of the repayment expected from the student if withdrawal occurs during:

- Week 1 = 90%
- Week 2 = 75%
- Week 3 = 60%
- Week 4 = 45%
- Week 5 = 30%
- Week 6 = 15%
- Weeks 7-11 = 0%

**College work-study earnings and Stafford Loans/Supplemental Loan to Student/Parents Loan for Undergraduate Students are ignored for the purpose of determining the amount to be repaid.*

- The calculated repayment shall be used to repay the financial aid programs in the following order of priority:
 1. Perkins/National Direct Student Loan
 2. Supplemental Educational Opportunity Grant
 3. Pell Grant
 4. Stafford Student Loan
 5. SLS/PLUS Loans
 6. Third-Party Billings for Tuition
 7. Alaska Loans
 8. Institutional Scholarships and Grants
 9. State Need Grant
 10. Paul Douglas and Byrd Scholarships

Funds may not be repaid to a program from which the student did not receive aid, and the amount paid to any program may not be greater than the amount the student received from that program.

NOTE: A tuition waiver does not reflect cash exchanged but an amount for which the student is never charged. Tuition and fee waivers are not factored in as an aid type in the repayment formula.

VETERANS INFORMATION

Each veteran enrolling at Western for the first time on the G. I. Bill must either apply for education benefits with the Veterans Administration or transfer his/her authorization from the last college attended. To ensure that allowances are received on time, this should be done well in advance of the academic quarter the student wishes to attend. Assistance in making application is available in the Registrar's Office, Old Main 230.

Veterans should also make certain that the objective they plan to pursue is the one authorized by the Veterans Administration. For instance, if the authorization is for the master's degree, the veteran must enroll in courses acceptable toward that degree. Any necessary changes in objective should be made in advance of registration.

A veteran enrolling for at least a half-time credit load may request advance payment. This request must be received by the Veterans Administration at least 30 days before the beginning of the quarter.

New transfer students may qualify for advance payment if there has been one calendar month since last attendance.

The advance check will be sent to the University for temporary care by the Controller until the veteran registers.

If a veteran does not seek advance payment or does not register through Western for benefits until the start of the quarter, payments will not begin arriving until the end of the second month of the quarter.

University Residences

High Street Hall #6, (206) 676-2950

Western Washington University's residential system provides a great variety of living options, a varied program, and live-in staff committed to the development of a positive living environment. All residence halls are coeducational. The University also has student apartments. Assignments to on-campus accommodations are made without reference to race, age, creed or national origin.

Students are not required to live in University residences. However, living on campus offers many advantages including convenience, value and increased opportunities to fully participate in the social and educational life of the campus community.

UNIVERSITY RESIDENCE HALLS AND DINING HALLS

With few exceptions, residence hall rooms are designed for occupancy by two persons. Each is furnished with single beds, mattresses and pads, desks, desk lamps, access to TV cable and a wardrobe or closet. The occupant furnishes pillow and case, sheets, blankets, towels, alarm clocks and other personal necessities. Because of fire danger, electric open element appliances are not permitted in student rooms.

Kitchenette and laundry facilities are provided in central areas. A recreation room, reception area, lounge, special study rooms, vending machines, and **limited** storage space is provided in most halls. Some halls have bike racks, pool tables and other recreational facilities.

Regular meal service is provided in three locations—the Viking Commons, Ridgeway Dining Commons and the Fairhaven Dining Hall.

Regardless of meal plan or residence, students may eat in any of the dining halls, although most tend to eat in the dining area nearest their residence hall. The meal ticket may be used in a University coffee shop after regular meal hours. Continuous food service is available at the Ridgeway Dining Commons from 7 a.m. to 6 p.m. each day. No meals are served during vacation periods.

Reservations for a residence hall space are made by completing an application and sending it to the Office of University Residences, High Street Hall, Western Washington University, Bellingham, Washington 98225-9113. Space is limited, so apply immediately for highest priority in assignment.

No deposit is required with the application but must be made when a housing agreement is signed. Space in a particular hall is assigned according to the date of the receipt of the housing application. Actual room assignments are computer-made and based upon student responses to a roommate assignment questionnaire.

Deposits, Cancellations and Refunds

Students making application and later deciding they do not want accommodations must cancel their reservations by notifying the Office of University Residences in writing.

In accepting an assignment to a residence hall, each student agrees to the Room and Board Agreement and makes a security deposit. The security deposit will be retained by the University as a damage and/or reservation deposit as long as the student lives in the housing system. An assignment to housing does not guarantee a parking space or permit.

Once the agreement is signed and the security deposit is made, cancellation of a reservation cannot be made

University Residences

without forfeiture of a part or all of the deposit. The reservation deposit may be refunded by the director of University Residences if circumstances exist which are beyond the student's control.

The reservation deposit becomes a damage deposit during the term of the housing agreement. Charges for damage to or loss of residence hall property which is assigned to the student's custody, damage to other hall property or outstanding normal charges will be billed to the student. If the amount of the damage or other charges exceeds the amount of the deposit, the student will be billed for the balance. The student's account will be cleared and a refund of the deposit made only after all housing and other University charges are paid in full.

APARTMENTS FOR SINGLE AND MARRIED STUDENTS

Birnam Wood consists of 132 apartments for 528 students on a wooded seven-acre site near the campus. Each apartment has a living room, dining room, kitchen, outside deck, divided bath, storage area, and two bedrooms furnished for four students with the usual furnishings, drapes and wall-to-wall carpeting. Utilities are provided as well as television-FM cable.

Assignments to *Birnam Wood* apartments are made by date of application. Students are expected to occupy the apartments in groups of four and the rental rates are established on that basis. In cases where students cannot find a full complement of roommates, the Office of University Residences will assist but is **not responsible** to complete student contractual obligations. A deposit is required from each person assigned to a particular apartment.

Buchanan Towers, located at the south end of the campus, is an eight-floor apartment building which

houses 406 students in one- and two-bedroom apartments and efficiency units. Each two-bedroom unit has a living-dining-kitchen area, two large bedrooms and a bathroom. The lower floor has a recreation area and central lobby. Furnishings, utilities, television cable and limited storage space are provided at no additional cost.

An assignment to a University apartment does not guarantee a parking space or permit.

COSTS

The Trustees of Western Washington University set room-and-board rates and apartment rents. The room-and-board rate for a double room with 21 meals per week were \$3,260 for the 1990-91 academic year. Apartment rates vary depending on the size of apartment. Residence hall rates include room, food and utilities. Apartment rates do not include the cost for food service. If students choose to have phone service in their room or apartment they contract for that with the local phone provider at their own expense.

Housing rates increase each year. For the actual annual and quarterly rental rate for University residence, contact the Office of University Residences, Western Washington University, Bellingham, Washington, 98225-9113, (206) 676-2950.

OFF-CAMPUS HOUSING

The Off-Campus Housing Listing Service maintains lists of available off-campus rentals. Because of constant changes in housing availability, these lists are not printed for mailing. Off-campus rentals are in great demand, and it is to the student's advantage to arrive in Bellingham prior to the start of the quarter to make off-campus living arrangements. The Off-Campus Listing Service is located in the plaza level entry of the Viking Union Addition, telephone (206) 676-3730.

Student Affairs

Western's Division of Student Affairs is committed to providing the best possible university environment for students in order to aid them in their academic, personal and cultural development. Assisting students as they seek to gain the fullest value from their university experience is a basic function of the many offices which make up this important component of the University.

By enhancing the student's abilities in decision-making, problem-solving, planning and interpersonal relations, staff help students take an active role in their education. Concerned with the physical, psychological and personal growth of students, the staff of Student Affairs offices provide services through residence hall life, academic advising, tutoring, financial aid, student activities, counseling, intramurals, career planning and placement, health services and intramural athletics. In addition, the division is well known for its long tradition of supporting experiences which enable students to supplement classroom learning, i.e., through budget management of student fees, leadership programs in a number of student activities, and active participation in intramurals and club sports.

VICE PRESIDENT FOR STUDENT AFFAIRS

Office of Student Affairs

Old Main 390, (206) 676-3839

The Office of Student Affairs is the central administrative office for the Division of Student Affairs. The Vice President for Student Affairs and staff maintain close working relationships with student leaders, faculty and university staff to ensure that the ongoing needs of students are addressed.

Ethnic Minority Services

Old Main 285, (206) 676-3839

The Division of Student Affairs and the University are committed to the development and implementation of programs to enhance the academic, cultural and social support of minority students. The Minority Achievement Program (MAP) in conjunction with the Ethnic Student Center ensures the Division's support for the orientation, advising, faculty and peer mentor programs, leadership training, and other activities for minority students. Under the leadership of the assistant vice president for student affairs/diversity, the Division works with the Provost's Office to ensure a comprehensive University-wide approach to recruitment and retention of minority students.

Office of Student Life

Old Main 390, (206) 676-3846

Designed as a student advocacy and problem-solving office, Student Life staff are available to help students take action on a variety of difficulties they may encounter while at the University. Issues addressed range from transition to the University, personal/family emergencies, personal safety, substance abuse prevention, sexual/general harassment, student conduct and student grievances. Staff provide extensive information/referral services and educational programs including orientation, parent programs and life skills workshops.

Orientation

The university experience offers a variety of learning opportunities—both in and out of the classroom. Orientation activities assist new students in their transition to the University and Bellingham community. In addition, the Orientation program offers formal and informal activities

Student Affairs

for new students to interact with faculty, staff and other students.

Orientation programs provide students the opportunity:

- To begin the academic advising process and register for courses.
- To become familiar with Western's services and facilities.
- To meet faculty, staff, returning and new students.
- To complete required placement tests.

Student Rights and Responsibilities

The complete text of the Guide to Student Rights and Responsibilities is included as Appendix C at the back of this catalog.

ACADEMIC ADVISING SERVICES

Academic Advising Center

Old Main 380, (206) 676-3850

The Academic Advising Center is a place where students can get help with their questions about academic policies and curricular choices. Peer advisers and professional staff clarify academic requirements and regulations, assist students with course selection and scheduling, and help students to use effectively the academic and supporting resources of the University.

One of the emphases of the Center is working with students who have not yet chosen a major. Students are helped to explore Western's curriculum and clarify their academic goals so that their eventual choice of a major is well-planned and rewarding. The services of the Center include:

- Advice concerning General University Requirements (GURs) and other pre-major concerns
- Assistance with the registration process
- Help with choosing a major
- Information and advice on professional transfer programs, e.g.,

pre-engineering, pre-medicine, nursing

- Assistance with establishing and successfully implementing academic goals
- Advising support programs for academically at-risk students
- Math placement exam and writing proficiency requirement information
- Explanation of scholastic standing policies: warning, probation, petitions for reinstatement
- Course and University withdrawal information
- Community college transfer information
- Referrals to appropriate resources such as the Writing Center or the Tutorial Center for work on specific learning and study skills

The Academic Advising Center is located in Old Main 380 and is open weekdays for drop-in questions. Appointments can be made by calling (206) 676-3850.

Disabled Student Services

*Old Main 275, (206) 676-3083 (voice)
(206) 676-3725 (TDD)*

With an emphasis on an independent and non-restrictive life, the Office of Disabled Student Services (DSS) offers necessary and appropriate support services to those with physical disabilities and learning disabilities.

Hidden disabilities require documentation by a qualified professional (e.g., heart condition or learning disability). Diagnostic testing for learning disabilities is available for a minimal fee. All disability information is confidential.

After determining what services are needed for a particular disability, DSS will provide services appropriate for you from the following list:

- Orientation to services
- Campus orientation
- Proctoring of exams (extended time or taped)

- Classroom relocations and elevator and lift keys for mobility impaired students
- Textbook taping
- Computer access program
- Information and referral for on- and off-campus resources
- Advocacy with faculty
- Allowing tape recorders for lectures
- Academic advising
- Career and personal counseling
- Sign language interpreters

Many of these services are available on the main campus only.

Tutorial Center

Old Main 387, (206) 676-3855

The Tutorial Center is a free resource for students of Western Washington University. The tutors are peer undergraduates familiar with the textbooks and courses encountered at Western, and they work with students taking General University Requirement courses. The Tutorial Center provides a comfortable and open setting in which tutors help students develop their command of the subject material as well as overall academic ability.

Students who use the Tutorial Center services include academically strong students working to maintain an A or B grade as well as those students having difficulties passing a course. Through individualized student-centered tutoring, students determine what information to cover as well as the pace of the tutorial. This process allows students to discover successful academic strategies necessary for independent learning.

Tutoring is offered in a variety of formats including individual and small group sessions by appointment, and drop-in tutoring where no appointment is needed. The Center also provides review sessions before selected exams. Students seeking extra help with such study skills as time management, textbook comprehension, test preparation, and note-taking can

find qualified assistance at the Tutorial Center.

Specific services include the following:

- Individual and small group tutoring by appointment
- Drop-in tutoring for GUR math and science courses
- Review sessions for many GUR courses
- Supplemental Instruction (SI) workshops for selected courses
- Study skills workshops and tutorials
- Computer-assisted math tutorials
- Referrals to other University resources

The Tutorial Center is open for tutoring from 9 a.m. to 4 p.m. Appointments can be made between 8 a.m. and 5 p.m. either in person or by phoning (206) 676-3855.

CAREER PLANNING AND PLACEMENT CENTER

Old Main 280, (206) 676-3240

The Career Planning and Placement Center offers a range of services focusing on the full continuum from career planning to placement.

Career Planning

Individual and group counseling is available to help students assess their interests and abilities and examine their personal needs and values as they relate to career decisions. Assessment tools include CHOICES, the Center's computer-assisted career guidance system, and Holland's "Self-Directed Search" interest inventory. Other areas of assistance include career exploration, analysis of job market information and relating career choices to educational programs.

Internship/Cooperative Education Program

Activities offered through the Center encourage and offer an opportunity

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for students to expand their educational program into the world of work by gaining supervised work experience related to their academic and career goals. The Center serves as a liaison between faculty, students and employers in coordinating and disseminating information regarding internship/cooperative education opportunities.

Career Resource Library

The Center maintains a comprehensive library of career and job market information to assist individuals with their career planning and job search. Reference materials are available to relate academic majors to careers, obtain descriptions of various career fields, identify internship/cooperative education opportunities, analyze job market conditions and research prospective employers. Also available are the job opportunity boards which announce current position openings in business, government, non-profit organizations and education. The library is an integral part of both the career planning and placement processes. Students are encouraged to start using the resources available as early as their sophomore year.

Placement Services

The Center provides special workshops and seminars on job search to assist students in learning the techniques and developing the skills necessary to conduct a successful job search in today's competitive market. Topics covered include resume preparation, cover letters/letters of application and job interviewing. All seniors are encouraged to start their job search efforts early.

Those who register formally with the Center are eligible to participate in on-campus interviews and receive weekly job listings. In addition, a placement file service is available to assist students in providing appropriate documentation for their job search.

Students should begin registration with the Center according to the following time line:

December Graduates/First Semester Student Teaching Interns—

Spring quarter before graduation, approximately the sixth week of classes.

March, June or August Graduates/Second Semester Student Teaching Interns—

October of the academic year in which they plan to graduate and/or receive teaching certification.

Alumni may obtain placement services if they update and reactivate their registration and (as appropriate) placement file. Graduates of other institutions who are working toward advanced degrees and/or certificates at Western and who have completed 30 or more credits may establish placement service, upon request, *during the academic year in which they will complete their degree or certification program.*

All Western students—regardless of degree, school or college—are urged to seek and use the services of the Center early in their University program. The Center maintains an open-door recruitment policy and operates under federal and state non-discrimination statutes.

COUNSELING CENTER

Miller Hall 262, (206) 676-3164

The Counseling Center offers professional counseling to meet a wide range of student needs. Both individual and group counseling are available.

Students come to the Counseling Center with a wide variety of concerns. Many of them are personal problems having to do with depression, stress reactions such as headaches or insomnia, lack of motivation, anxiety, an eating disorder, low self-esteem, and so on. Some con-

cerns are school-related such as test anxiety, math anxiety or procrastination on assignments. Personal counseling may be helpful with issues such as these through gaining self-understanding, developing skills that enhance personal effectiveness, or learning self-management skills to handle the stresses associated with being a university student.

Relationship problems are typified by difficulties with assertiveness, shyness, roommates, anger or desire to change self-defeating behavior in relationships. Counseling can be helpful in exploring the issues involved and in developing skills that are necessary to have successful intimate and friendship relationships. Career issues can arise over the necessity to identify a major or to decide on a direction after graduation. Counseling can be helpful in assessing interests, abilities and skills, in selecting an appropriate major, overcoming learning difficulties, managing exam anxieties, and exploring long-range educational and professional goals.

Many students come to the Counseling Center for concerns they regard as relatively minor, such as worry over how to ask a professor for more time to write a paper. Others have concerns that are more serious, such as grief over the death of a parent or friend, trauma such as rape or abuse, or thoughts of suicide.

Each quarter the Counseling Center arranges groups that are aimed at meeting special needs of college students. A listing and information about these groups can be found at the Counseling Center, in the *Western Front* (the student newspaper) and on bulletin boards around campus.

The Counseling Center has a Resource Room which contains books, pamphlets and audiotapes that may be used independently by students or in connection with individual or group counseling. The Resource Room also cooperates with

the Student Health Center to provide videotape materials that may be viewed privately or in groups in the Student Health Center (High Street Hall 25).

Counselors also are available for consultation with students, parents, faculty and staff who have questions about psychological resources available on and off campus, who have concerns about a student or who have other questions of a psychological nature.

Counseling Center services are for currently enrolled students and are voluntary and free. All information gathered during the course of counseling is confidential and only released to appropriate professionals when the student gives consent. Counselors at the Counseling Center are professionally trained and experienced in counseling/clinical psychology or social work.

STUDENT HEALTH CENTER

High Street Hall 25, (206) 676-3400

Good health is essential for students to derive the maximum benefit from their time at Western. To this end, health care is provided by the Student Health Center which includes treatment of acute problems, preventive health measures, health counseling, and general medical and health education. The Student Health Center is staffed by a highly trained team of physicians, nurse practitioners, registered nurses, medical assistants, health educators and support personnel. All information gathered during the course of health care or counseling is strictly confidential and released to other health providers only with the student's written consent.

Health services are available to all students currently enrolled for six or more credits. The mandatory student health services fee provides students unlimited access to the Student Health Center *without charge* for office visits. Students will pay for some tests, supplies or medications

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used in their treatment. ***It is not necessary to be a member of any health insurance plan to use this service.***

The Student Health Center is open weekdays from 8 a.m. to 5 p.m. when classes are in session. ***Students are seen from 8:30 a.m. to 4 p.m. Monday through Friday except Wednesdays from 9 a.m. to 4 p.m.*** Any student requiring non-emergency medical care should go directly to the Student Health Center. Appointments to see a physician or nurse practitioner also may be made by telephone.

A Resource Room is located in the Student Health Center. It contains books, pamphlets and videotapes that may be used independently by students or in conjunction with medical care or health counseling. The Resource Room also cooperates with the Counseling Center to provide a wider range of books, pamphlets and audiotapes.

Care provided at the Student Health Center is directed at those problems generally treated in a physician's office. Students with more specialized conditions are evaluated and referred to appropriate specialists in Bellingham or in the student's home community. Services offered on campus include medical evaluation, treatment, many medications and prescriptions as indicated; referral for laboratory X-ray and consultation as necessary; preventive medicine or wellness clinics and workshops; antigen injections; diet/weight/nutrition appointments; and sexually transmitted disease screening and treatment, pregnancy testing, women's health care and family planning services. The Center also provides an anonymous and confidential AIDS testing program in cooperation with the Counseling Center. The program includes pre- and post-testing counseling.

When the Student Health Center is closed, students are advised to seek services from available after-hour medical facilities in the Bellingham

area. ***Note: The University assumes no financial responsibility for care dispensed at other health care facilities.*** Students who engage other health facilities must plan to use private funds or their health insurance policy to cover resulting charges.

The Student Health Center coordinates the provision of a student insurance policy through Whatcom Medical Bureau at a reasonable cost to the student. This emergency/illness (i.e. life-threatening) and accident insurance policy is designed for students who do not already have health insurance coverage and is available for all students currently enrolled for six or more credits. Sign-up time is during the first three weeks of each quarter. Brochures are available at the Registration Center, Cashier's Office and the Student Health Center. Payment is made at the Plaza Cashier. The Student Health Center strongly recommends that all students have some form of health insurance to defray the substantial costs associated with serious accidents and illnesses.

All new students, including graduate students, must submit a signed health history form. This form must be on file at the Student Health Center before the student receives registration privileges. While it is ***not*** mandatory, the Student Health Center encourages a complete physical examination before enrollment in classes. This confidential physical examination ***is required of all entering international students.***

The University ***requires all students born after January 1, 1957, provide proof of measles immunization*** after 1968 and after one year of age before they can register for classes.

RESIDENCE LIFE

High Street Hall 41, (206) 676-2960

The primary purpose of the Office of Residence Life, a department within University Residences, is to facilitate a living/learning community which

promotes the academic, personal, social, and cultural growth and development of Western's resident students. The Residence Life staff provides a wide variety of educational and social programs designed to complement the classroom experience for on-campus residents.

Living in a residence hall or on-campus apartment is a unique experience which provides an opportunity to meet new people and explore new ideas and ways of relating to others. It is an important part of the educational process in which students are encouraged to be involved in activities and programs and to assume individual and group responsibility.

Professional and student staff members provide supervision, personal counseling, conflict management and crisis intervention. They also assist residents in developing a sense of community in which students can feel "at home" while in residence at Western.

Numerous student leadership opportunities are available through the Office of Residence Life, including volunteer positions in hall government and committees and paid positions such as computer room coordinator and resident adviser. Western strongly encourages students to be active, involved citizens in the residential communities, since this enhances both the community and their own individual growth and development.

STUDENT ACTIVITIES

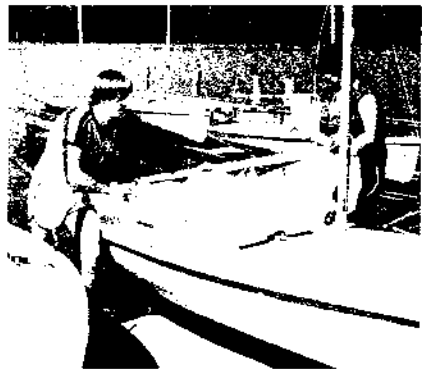
Viking Union 202, (206) 676-3450

The program of student activities at Western is designed to provide maximum opportunity for student participation in a wide range of co-curricular experiences. Student activities are in no sense incidental in the plans of the University; rather they are integral and highly important parts of the total range of educational experiences offered by the University. Students are encouraged to become involved in some aspect of

the activity program since these activities provide educational and social experiences supplemental to, and often unavailable in, classroom situations.

Many student activities are initiated and administered by students themselves through the Associated Students. Students may participate in the governing bodies of student-administered services, activities, and facilities not only to help determine the quality of co-curricular life, but also to gain administrative experience. Students may also participate in the University governance system as elected or appointed members of its various councils and committees.

Opportunities to serve fellow students and to develop skills in a para-professional capacity are available in a wide variety of student-provided services. These include Drug Information, Legal Information and Sexual Awareness Centers; the Environmental Center; the Veterans' Outreach Center; STRATA (older returning students); the A.S. Recycling Center; the Ethnic Student Center; Men's and Women's Centers; the Gay and Lesbian Alliance; the Peace Resource Center; and a Cooperative Day Care Center.



Day Care Facilities

The Associated Students Co-Op Day Care Center, a student/parent cooperative operated in Western's Fairhaven College buildings, serves children of student parents from 7:30

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a.m. to 5:30 p.m. on the days Western is in session. Children from two through five years of age may be enrolled. To join, members pay a membership fee. Quarterly fees are based on income and are established according to the Center's annual budget. In addition to these payments, each member works a required number of hours per week at the Co-op Day Care Center.

FM Radio

Operated by the Associated Students, KUGS broadcasts in stereo at 89.3 on the FM dial. A student staff assists the general manager in all facets of station operation and coordinates the efforts of 100 volunteers. With a complete range of music, news, and educational programming, KUGS offers students opportunities for participation as engineers, disc jockeys, newswriters and managers.

Outdoor Activities

Taking full advantage of the beautiful and varied country of northwest Washington, the Outdoor Program functions as a catalyst and resource center for hiking, ski touring, mountaineering, snowshoeing, rock-climbing, bicycling, backpacking, river rafting, camping, sailing, canoeing, kayaking and many other activities. Included in the Outdoor Program Center are environmental, map and outdoor libraries and sign-up sheets for trips, instructional activities, and many special events for both beginners and experts. A full range of outdoor equipment, such as rafts, backpacks, cross-country skis and cycling gear, is available for rent from the Valhalla Equipment Rental Shop.

Associated Students Productions

From socializing to social issues, the A.S. Productions coordinates and presents a large part of Western's entertainment, educational, and social activities. Weekly films, art exhibits,

concerts, noted speakers, coffee houses, dances, symposiums, festivals, and cultural events are regularly provided by the A.S. Productions.

Recreational Opportunities

Recreational facilities available to the University community include Lake-wood, a ten-acre site on Lake Whatcom, which is operated by the Associated Students, and offers sailing, canoeing, swimming, boating and picnicking. Conference and meeting facilities are also available. In addition, Viqueen Lodge, located on a 13-acre tract on Sinclair Island and operated by the Associated Students, offers overnight accommodations at the entrance to the San Juan and Gulf Islands.

Clubs and Organizations

Clubs and student organizations offer involvement in a wide range of activities. More than 75 different organizations exist within the Associated Students including groups such as the Black Student Network, Political Science Association, Anti-Apartheid Action Coalition, Safe Waste Management NOW, International Club, Science Fiction and Fantasy Club, Society of Automotive Engineers, Computer Club, SCUBA Club, MECHA, Native American Student Council and various departmental clubs. Many religious groups are also active at Western.

Viking Union

As the community center of the campus, the Viking Union Complex plays an integral role in the co-curricular program. The Union houses offices for the Associated Students' government, services and activities; the Viking Union/Student Activities administrative offices; and the University's Retail Food Services. Also located in the Union are meeting rooms, lounges, a music listening room, outdoor equipment rental shop, bicycle repair facility, several food service areas, an information center/smoke-

shop, a cash machine, a delicatessen, Plaza Pizza, art gallery, games room, typing room, KUGS-FM, an activity center, a publicity center/print shop, cashier service and program areas.

Associated Students

Cooperative Bookstore

Operated by the Associated Students on a cooperative basis, the Bookstore provides textbooks, class supplies and materials, computers and convenience and sundry items for the University community. All merchandise is discounted at 11 percent, while specials afford even greater savings. Also housed in the store is a post office and a cash machine. Gift items and specialty services, such as film processing, are available.

DEPARTMENT RELATED ACTIVITIES

Department related activities provide opportunities for students to participate in a wide range of programs. Although faculty from appropriate departments work closely with these activities, students need not be affiliated with the departments in order to participate. In many cases students may receive academic credit for their involvement. The individual programs are outlined below:

Athletics

Carver Gym 100, (206) 676-3109

Intercollegiate athletics involve many students as participants and spectators. Men's sports include basketball, crew, cross-country, football, golf, soccer, tennis, and track and field; women's sports include basketball, cross-country, tennis, track and field, crew and volleyball. The University Athletic Program is a member of, and governed by, the National Association of Intercollegiate Athletics. For further information contact the Athletic Office, Carver Gymnasium (206) 676-3109.

Club Sports

Carver Gym 101, (206) 676-3766

The Club Sports program offers WWU students, staff and faculty an alternative to intramural sports, physical education and varsity athletics. The level of competition ranges from local to national, depending on the sport. The current program includes teams in: men's volleyball, men's ice hockey, skiing, swimming, men's and women's lacrosse, men's and women's rugby, women's fastpitch softball, fencing, sailing, baseball, snowboarding and judo.



Forensics

College Hall 101, (206) 676-3870

The Forensics program provides opportunities for participation in local, regional and national competitions, including CEDA and NIET regionals and nationals. The Pi Kappa Delta National Forensics Honorary recognizes student achievement in tournaments ranging from novice to championship divisions. WWU's program enjoys a strong national reputation. Annual activities also include sponsoring several local events, including high school and college tournaments and appearances by CIDD international teams. All students are welcome to participate.

Student Affairs

For more information, contact the Department of Communication, College Hall 101.

Intramurals

Carver Gym 101, (206) 676-3766

A comprehensive intramural sports program offers students an opportunity to participate in structured and unstructured activities on campus. League play is organized in volleyball, basketball, softball, soccer, team handball, floor hockey, and flickerball. Tournaments for such sports as racquetball, wrestling, pickleball, 3-on-3, hot shot basketball, and badminton are offered throughout the year. The pool, weight room, gymnasiums and playing fields are scheduled for recreational use daily for the individual who prefers to participate without a competitive atmosphere (e.g., aerobics and water aerobics).

Music Activities

Performing Arts 273, (206) 676-3130

The presence of the Department of Music has resulted in numerous student activities of high artistic and professional quality. The wide range of vocal and instrumental groups on campus provides musical activity for students at acceptable levels of ability, and the variety of musical entertainment available is sufficient to satisfy listeners of all tastes. Some of the opportunities for participation available to students are the Symphonic Band, Wind Ensemble, University Choir, Concert Choir, Symphony Orchestra, stage bands, jazz ensembles, opera, Collegium Musicum, and numerous smaller ensembles. Membership in all of these ensembles is attained through either a performance audition or consent of the instructor. See the Department of Music section of this catalog or contact the Department of Music for further information regarding organized music ensembles and auditions for membership.

Publications

Publications include the *Western Front*, a twice-weekly newspaper; *Klipsun*, a twice-quarterly magazine; and *Jeopardy*, the annual literary magazine. Student contributions of time and talent are essential to the publications, and new students at all academic levels are encouraged to join their staffs each quarter. Students may receive credit for working on these publications through the Journalism and English departments.

Television

A student-produced weekly color TV news show and a daily headline news program carried on the cable system serving Bellingham provide experience in newsgathering, editing, scriptwriting, videotaping, studio production and on-camera performance. Credit is available through the departments of Communication, Journalism and Technology.

Theatre Arts

Performing Arts 395, (206) 676-3876

The theatre and arts program offers a rich variety of opportunities to work both on and off stage — to write, choreograph, act, dance, direct, costume and teach — in faculty- and student-directed productions. Productions during the academic year cover a broad range, including musicals, drama, comedy, dance concerts and plays for children. Every year a touring theatre program is produced, and the annual Summer Stock program provides a concentrated applied-theatre experience for beginners and advanced students. The program is affiliated with the American Association of Theatre in Higher Education and participates in the American College Theatre Festival. Previous experience is not required for participation. Auditions are announced to the campus community. Contact the Department of Theatre Arts, Performing Arts Center 395 for more information.

University Academic Policies

ADVANCED PLACEMENT AND COURSE CHALLENGE

A regularly enrolled full-fee paying student may apply to challenge any course covering knowledge or materials with which the student has

acquired a demonstrable level of familiarity or understanding from prior experience (except conferences, special projects and physical education activities courses). If achievement commensurate with the

<i>Department</i>	<i>Subject Examination</i>	<i>WWU Courses/Credit</i>
Art	Art History	Art History 220, 230, 240 (15 credits)
	Studio Art	Art 101 (3 credits) by portfolio
Biology	Biology	Biology 121, 123 (8 credits)
Chemistry	Chemistry	Chemistry 121, 122 (10 credits)
English	English composition and literature, English composition and language	English 101 (4 credits) plus general elective English (4 credits) (8 credits) placement by departmental advisement
Foreign Languages	German Language	German 201 (5 credits)
	Spanish Language	Spanish 201 (5 credits)
	French Language	French 201 (5 credits)
	Russian Language	Russian 201 (5 credits)
History	American History	History 103, 104 (American History 10 credits)
	European History	History 113 (5 credits)
Mathematics & Computer Science	Mathematics Calculus AB Mathematics Calculus BC	Math 124 (5 credits)
Music	Music Listening and Literature	Music 104 (3 credits) Music 105 (3 credits)
Physics	Physics	Physics 121 (5 credits)
Political Science	American Government and Politics	Political Science 250 (5 credits)
	Comparative Government and Politics	Political Science 291 (5 credits)

Academic Policies

expectations of a given course is demonstrated, the student receives credit for the course. Such achievement may be demonstrated by:

College Board Advanced Placement Examinations in certain subjects. The department concerned determines the minimum acceptable score. Normally, a score of three or higher results in advance placement and credit as shown below.

One quarter of successful performance in an advanced course in a sequence which is developmental in nature can, upon departmental recommendation, qualify a student for credit in the preceding course; admission to the advanced course is subject to permission of the department.

Challenge examination or procedures prepared by the department concerned.

The following regulations govern course challenges:

1. Students desiring to challenge a course should apply to the director of the Testing Center by the fourth week of the quarter. The time and procedure to be followed in completing the evaluative process will be announced by the director. A special fee is charged for each challenge examination (see Tuition and Fees section).
2. The result of the challenge is recorded as "Satisfactory" or "Unsatisfactory" on the student's permanent record and is not used in computing grade point averages.
3. The challenge application will normally be denied:
 - (a) if the student is currently enrolled in the course;
 - (b) if the student has previously established credit for a similar course at this or another university;
 - (c) if the student has previously failed the course;
 - (d) if the student has previously challenged the course and failed;
 - (e) if the student has previously audited the course;
 - (f) if, in the judgment of the director of the Testing Center, in consultation with the department concerned, the challenge procedure is inappropriate;
 - (g) if the student is in his/her final quarter prior to graduating and the course is part of the General University Requirements.
 - (h) if, in the judgment of the academic department, the student has not demonstrated sufficient familiarity or understanding to have a reasonable chance of passing a challenge examination.

COURSE NUMBERING

Courses numbered from 100 to 299 are classified as lower division; those numbered from 300-499 as upper division. Generally, the first digit of a course number indicates its intended class level:

- 100-199 first year (freshman) courses
- 200-299 second year (sophomore) courses
- 300-399 third-year (junior) courses
- 400-499 fourth-year (senior) courses
- 500-699 graduate level courses

Except in unusual circumstances, students are not permitted to take courses more than one year above their class standing.

The numbers 197, 297, 397, 497 and 597 are used for courses generally offered only once.

The numbers 137, 237, 337, 437, 537 are reserved for *Study Abroad* (2-15). These courses are offered through the WWU Study Abroad program or through colleges. Contact the For-

oreign Study Office, OM 530, for information. Repeatable with different subject matter.

The numbers 417, 517 are reserved for *Senior Seminar or Special Topics* (1-6). Topics vary. Repeatable with different subjects.

The numbers 445, 545 are reserved for *Current Trends* (1-6). Topics vary. Repeatable with different subjects.

The numbers 300, 400, 500 are reserved to designate *Directed Independent Study* (1-15), enabling students to pursue on an individual basis topics not covered by the curriculum.

Details regarding titles, prerequisites, number of credits and grading for specific courses can be found in the *Timetable of Classes*, Summer Bulletin or University Extended Programs' bulletins.

Any undergraduate student wishing to enroll in a course numbered 500 or higher must obtain the written approval of the Dean of the Graduate School. (See the Graduate section of this catalog.)

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this catalog. For an exact scheduling of courses at Western, students should consult the annual *Timetable of Classes*, the Summer Bulletin and the University Extended Programs' bulletins.

INDEPENDENT ELECTIVES

In addition to courses specified in the various major programs of the University and courses specified under the General University Requirements, students also have available independent electives. Independent electives give students the opportunity to investigate those special and personal interests that engage the curious and inquiring mind. It is the

academic policy of the University to encourage such (independent) exploration.

PREREQUISITES

The student is responsible for ensuring that he or she has satisfied all prerequisites before registering for a given course. A student who has registered for a course without satisfying prerequisites or obtaining permission may be required by the instructor to withdraw from the course during the drop/add period at the start of the quarter.

CREDITS AND CREDIT LOADS

An academic credit is a measure of the total time commitment required of a typical student in a particular course of study. Total time consists of three components: 1) time spent in class; 2) time spent in laboratory, studio, field work, or other scheduled activity; 3) time devoted to reading, studying, problem solving, writing, or preparation. One hour credit is assigned in the following ratio of component hours per week devoted to the course of study: 1) lecture course — one contact hour for each one hour credit (two hours outside preparation implied); 2) laboratory or studio course — at least two contact hours for each one hour credit (one hour outside preparation implied); 3) independent study — at least three hours work per week for each one hour credit.

Since each hour in a course requires two additional hours of study, and since students usually register for several courses, Western has established the following credit load policies for undergraduate students:

- The standard load per quarter for undergraduates is 15 credits; during the first quarter of residence, a load must not exceed 17 credits. Before registering for more than 15 credits, students should consult with their advisers.

Academic Policies

- After the first quarter of residence, the maximum allowable load is 20 credits per quarter.
- An employed student is expected to reduce his or her academic program and credit load accordingly.

See the Summer Catalog for load limits during the summer session.

CORRESPONDENCE CREDIT

Correspondence credit earned through a fully accredited college or university may be accepted toward the bachelor's degree up to a maximum of 45 credits.

AUDITORS

Auditors are persons who desire to attend courses without credit. Admission as an auditor requires prior approval of the instructor and Registrar, as well as payment of required fees. Regularly enrolled full-time students do not pay an additional fee for auditing. Since auditors are not active participants, certain courses may not be audited (physical education activities, laboratory courses, studio courses, etc.). Registering as an auditor is not allowed until the first day of classes, and changes to or from audit cannot be made after the first week of the quarter.

FULL-TIME STATUS

For most purposes, it is necessary for an undergraduate to be enrolled for 12 credits or more in order to be considered full-time (e.g., eligible for financial assistance, full-time veterans' benefits, participation in intercollegiate athletics). Graduate students, officially admitted to the Graduate School, are considered full-time for financial aid purposes at 10 credits and for veterans' benefit purposes at 8 credits. ***Students are advised to check carefully to determine that they meet the definition of***

"full-time enrollment" for the program in which they are participating.

Graduate students should consult the Dean of the Graduate School for a definition of "normal progress."

ADDING A COURSE

A student may add a course during the drop/add period at the start of each quarter. After that time, course additions are allowed only under unusual circumstances and require written permission of both the course instructor and the department chairperson. A special late-add fee is also charged (see Tuition and Fees section).

COURSE ATTENDANCE

Course attendance is required at the discretion of the instructor. The student who fails to attend the first meeting of a course may be required to drop it if another student, previously unable to register for the course due to enrollment limitations, seeks admission.

LEAVES OF ABSENCE

A leave of absence from classes may be granted when psychological or family emergency, illness or injury requires a student to be absent from class. Leaves of absence are issued only upon request from the student. If a faculty member requires medical leaves of absence, the faculty member will inform the students in his/her classes of that fact in the course syllabus. Non-medical personal leaves of absence are available through the Office of The Vice President/Dean of Student Affairs and medical leaves through Health Services.

While a leave of absence generally makes it possible for the student to make up work missed, in some instances the amount of time lost makes course completion impractical. In those cases, withdrawal or

incomplete grades may be appropriate. The student should consult with course instructors and/or the Office of Student Affairs.

WITHDRAWAL FROM A COURSE

To withdraw from (drop) a course, a student must file a Change-of-Program form in the Registrar's Office. Discontinued attendance without official withdrawal results in a failing grade (Z).

Course withdrawal during the drop/add period at the start of each quarter is considered to be a change of initial registration and no grade of W results.

From the end of the drop/add period until the end of the fourth week of each quarter, course withdrawal results in a grade of W. (Deadline dates are published in the *Timetable of Classes*.)

After the fourth week of a quarter, the student is committed to earn a grade in each registered course unless he or she has "late withdrawal" privileges that have not been used or unless he or she withdraws from the University.

Late course withdrawal, with a grade of W, is permitted on a limited basis from the beginning of the fifth week through the ninth week of instruction each quarter. Late withdrawals are allowed only in accordance with the following schedule:

Total Credits Earned*	Late W Permitted
0-44	3 during this 45-credit period
45-89	1 during this 45-credit period
90-134	1 during this 45-credit period
135-179	1 during this 45-credit period
etc.	

Graduate and post-baccalaureate students are allowed one late withdrawal privilege every 45 credits.

*Includes credits transferred to Western.

NOTE: "Late withdrawal" during the summer quarter is allowed during weeks three and four of the six-week session and during weeks five through seven of the nine-week session.

WITHDRAWAL FROM THE UNIVERSITY

Formal withdrawal from the University may be made at any time before the final two weeks of a quarter. Students must initiate the withdrawal process in the Registrar's Office.

Students who leave the University during a quarter without formal withdrawal receive failing grades.

If a student completes the official withdrawal process prior to the deadline, no grades are issued for the quarter. A withdrawal date is posted to the permanent academic record.

FINALS PREPARATION WEEK

The week immediately preceding Final Examination Week is known as Finals Preparation Week, and provides the following protections which enable students to complete their studies without undue hardships:

- Final examinations must be administered at the date and time specified in the Final Examination Schedule, with the exception of laboratory-section final exams.
- During Finals Preparation Week, no examinations shall be administered. Exceptions may be made if there is agreement of the instructor, the appropriate department chair and/or dean, and the entire class membership.
- No graded assignments shall be introduced during Finals Preparation Week.
 - a. Students may consent, on an individual basis, to accept new graded assignments for

purposes of extra credit and/or makeup for previous assignments.

- b. Instructors must have notified students in writing, by the end of the course's fifth week, of any graded assignments whose *due dates* fall during Finals Preparation Week.

The term "graded assignments" refers to written or oral presentations which are a required component of class performance and which are utilized in determining students' letter grades or evaluations for the quarter. Examples include essays, papers, research projects and class presentations or quizzes.

FINAL EXAMINATIONS

Final examinations, given in most courses at Western, are administered according to a schedule published in the Timetable of Classes. The scheduled days and hours for these examinations may not be changed. The final examination is normally held where the course meets.

All final examinations are scheduled during the last week of the quarter, which is known as *final examination week*. No final examinations except laboratory finals — whether for a whole class or part of a class or an individual — may be given before final examination week. This means that students may not petition faculty for early final examinations and that students should plan their end-of-quarter schedules in the expectation of final examinations in all courses. In the rare cases where final examinations are not given, instructors will notify students at the beginning of the quarter.

A student who fails to take a final examination without making prior arrangements acceptable to the instructor receives a failing grade for the course. Under unusual circumstances, an instructor may allow a student who has been making satisfactory progress in the course to take

a late final examination and receive a temporary incomplete (K) grade. This privilege is available only to students who have been making satisfactory progress in the course. The incomplete grade given in this manner should be removed early during the next quarter.

If the Final Examinations Schedule causes a student to take three or more examinations in one day, any of his or her instructors may arrange an examination *later* during Finals Week.

GRADES AND GRADE REPORTING

At Western, grades describe both a student's mastery of subject matter and the ability to communicate that mastery in examinations, essays, demonstrations and discussions. The three grading systems are described below. (Fairhaven College is authorized to follow a different system described elsewhere in this catalog.)

A-F GRADING

Most courses at Western are graded on the traditional A-F system. The grades that may be earned under this system, and their values for GPA calculation (see "Grade Averages" below), are as follows:

Grade	Points per Credit
A (Superior)	4.00
A-	3.70
B+	3.30
B (High Pass)	3.00
B-	2.70
C+	2.30
C (Pass)	2.00
C-	1.70
D+	1.30
D (Low Pass)	1.00
D-	0.70
F (Failure)	0.00
Z (Failure due to discontinued attendance without withdrawal)	0.00
K (Incomplete)	N.A.

SATISFACTORY/ UNSATISFACTORY GRADING

Some courses are graded on the S/U system. For these courses, appropriate curricular agencies have determined that the traditional A-F system is inappropriate. If a course has been approved for S/U grading, the only grades that may be assigned are S, U and K. Neither S nor U is considered in the calculation of grade averages.

All S/U courses are identified in this catalog and in the *Timetable of Classes*.

PASS/FAIL GRADING

Students may choose the Pass/Fail grading option in certain elective courses. The minimum level of performance required to receive a grade of P varies from course to course and is determined by each instructor. Students should not assume that performance equal to a grade of D or higher will result in a passing mark. Often performance at the level of C or higher is required. Regulations pertaining to Pass/Fail grading are as follows:

1. Courses required for the major and minor, supporting courses, professional education requirements, writing proficiency requirement and General University Requirements may not be taken pass/fail. Courses graded P/NP may not be applied to master's degree programs.
2. At the time of registration students must designate the courses for which they wish to receive a pass/fail grade. They may change this designation by the regular change of registration procedure through the fourth week of a quarter.
3. Prerequisites, work required, and credit allowed are not affected by election of the pass/fail option.
4. In computing grade averages,

neither the P nor NP grade in pass/fail courses is counted.

5. Courses applying to a major (including supporting courses) or a minor must be taken on the traditional A-F grading system. Should a student change his or her major or minor, the academic departments involved are the sole judges of the acceptability of any pass/fail courses already completed in the newly chosen concentrations.
6. Once a student has earned NP grades in courses totaling 10 credits, he or she may no longer register for courses under the pass/fail option.

NOTE: Excessive use of the Pass/Fail grading system may negatively influence admission to some graduate or professional schools.

THE INCOMPLETE (K) GRADE

The grade of K (incomplete) may be assigned under all grading systems. It may be assigned only upon request of the student and agreement of the course instructor. Normally it is given only to a student who has been in attendance and has been doing passing work until the final two weeks of the quarter when extenuating circumstances beyond his or her control make it impossible to complete course requirements on schedule. (Extenuating circumstances do not include mere lateness in completing work, the desire of a student to do extra work to raise a poor grade, etc.)

To receive a K grade, a student must obtain a contract form from the appropriate department and negotiate a formal agreement with the course instructor specifying the work done and the remaining work to complete the course and earn a grade. One copy is kept by the student, and one by the faculty member.

Normally, the student removes the K grade (completes the work agreed upon) during the next quarter. After

one year, if the K has not been removed, it automatically reverts to a failing grade (Z), and the student may establish credit only by registering again for the course. (Grades of K earned in thesis courses numbered 690 do not lapse to failure.)

GRADE AVERAGES (GPA)

To determine a grade average, points are assigned to each grade earned under the A-F grading system (A=4.00, B=3.00, etc. See above.). The point value of each grade is multiplied by the number of credits assigned to the course. Total points are then divided by total credits attempted. Thus, a student who earns a five credit A, five credit B and a five credit F has earned a quarterly average of 2.33 (35 points divided by 15 credits attempted).

A grade average of 2.00 (C) represents the minimum acceptable level of performance to remain in good standing at the University. Higher grade averages may be required for admission to or retention in certain major programs.

Only grades earned at Western are calculated in determining a student's quarterly or cumulative grade average.

Grades of S, U, P, NP, K and W are not included in GPA calculation.

GRADES YIELDING CREDIT

Credit is granted for courses completed with grades of D- or higher on the A-F grading system and for grades of P and S. The grades of D+, D and D-, however, represent a level of work that is unacceptable in a student's major or minor, supporting courses for majors and minors, English 101, professional education courses, the educational psychology courses required for teacher education programs, and Continuing Certification courses.

REPEATING A COURSE

A few courses are approved to be repeated for credit. Such approval is included with the course descriptions in this catalog. Students who enter the University in the fall of 1991 or later may repeat any other course only once. If a course not designated as repeatable for credit is retaken, the following will apply:

- 1) Credit will be awarded only once.
- 2) Only the last grade earned will be considered in calculation of the student's grade average (unless the last grade is K, W, NP or U).

The student who registers to repeat a course should file with the Registrar a "Course Repeat Card." Unless this card is filed, the repeat may not be detected until the Senior Evaluation, at which time cumulative credits will be reduced. In the meantime, the student's grade average will reflect both course grades.

GRADE REPORTS

Within a few days after the end of each quarter the Registrar sends a grade report to each student. The student indicates, at the time of registration, the address to which the grade report is to be sent.

GRADE CHANGES

Once a grade has been filed with the Registrar, it is regarded as final. Except for the conversion of incomplete (K) marks, grade changes are accepted only under the following circumstances:

- 1) It is discovered that the grade resulted from clerical error in transcription or recording. Requests for change to correct these errors may be made only by the course instructor and only during the quarter immediately following original issuance of the grade.
- 2) The Registrar may be instructed to change a grade as the result of

the academic grievance procedure.

- 3) The Registrar may be instructed to change a grade if it is determined that the grade resulted from academic dishonesty.

FRESH START GRADE AVERAGE

A former Western student who returns to the University after an absence of *five years or more* and whose Western cumulative grade point average was less than 2.00 may be given permission to start a new cumulative grade average. Complete information regarding this policy and the procedure is available from the Academic Advising Center.

SCHOLARSHIP STANDARDS

The following scholarship standards apply to each academic division of Western Washington University, except Fairhaven College. Students should note that transfer between academic divisions is restricted in cases of low scholarship.

High Scholarship

Graduation Honors

Graduation *cum laude* or *magna cum laude* is possible from those divisions of Western Washington University which employ the A-F grading system: College of Arts and Sciences, College of Business and Economics, College of Fine and Performing Arts, Woodring College of Education and Huxley College of Environmental Studies. Fairhaven College, which employs a different grading system, may develop alternate ways to honor outstanding graduates, subject to approval of the Academic Coordinating Commission.

Within each college which awards *cum laude* or *magna cum laude* status upon graduation, the determining factor in granting such distinction shall be rank-in-class based upon

cumulative grade average. *Magna cum laude* shall be awarded to each student whose cumulative grade average places him or her at the 97th percentile or higher among graduating seniors during the *previous* academic year. *Cum laude* shall be awarded to each student whose cumulative grade average places him or her from the 92nd through 96th percentiles among graduating seniors during the *previous* academic year.

In computing cumulative grade averages to determine graduation honors, the Registrar shall count only those grades earned at Western Washington University, including all grades in courses subsequently repeated and all grades earned prior to approval of a "fresh start" grade average.

To be eligible for *cum laude* or *magna cum laude* status upon graduation, the student must have earned at least 90 credits from Western Washington University, at least 65 of which must be for courses completed under the A-F grading system.

Only students who earn a first bachelor's degree are eligible for graduation honors.

Quarterly President's List

Each undergraduate student whose quarterly grade average places him or her at the 90th percentile or higher among students of the same class (freshman, sophomore, etc.) shall be placed on the President's List. The term "honor roll" shall be affixed to the student's permanent academic record for that quarter. To be eligible for the quarterly President's List, a student must be enrolled officially in a division of Western Washington University which employs the A-F grading system and must complete at least 14 credits on that grading system.

Low Scholarship

The University has set the standards described below to ensure that stu-

Academic Policies

dents who are earning poor marks will examine their objectives carefully before continuing enrollment. In some cases, students will be dropped from the University. The standards are designed to ensure that this action is taken before a student's record deteriorates to the point that reinstatement or admission to another college or university becomes impossible. In all cases involving poor scholarship, students are encouraged to consult with their advisers, instructors, or the Academic Advising Center.

The low scholarship categories below apply to all divisions of Western Washington University except Fairhaven. (See the Fairhaven College section for that division's scholarship standards.) Students dropped from one college division may not transfer to another college division without reinstatement by the appropriate academic committee.

Academic Warning. A warning is issued to a first-quarter freshman whose grade average is below 2.00 and to any continuing student whose quarterly grade average is below 2.00 but whose cumulative grade average is 2.00 or higher.

Academic Probation. Any student, except a first quarter freshman, whose cumulative grade average falls below 2.00 is placed on academic probation. Such a student is in danger of academic dismissal and must make immediate improvement in his or her grade average (see below).

Continuing Probation. A student who begins a quarter on probation and, during that quarter, earns a grade average of 2.00 or higher without raising his or her cumulative grade average to at least 2.00 is placed on continuing probation. The student must then improve his or her cumulative grade average to at least 2.00 or attain at least a 2.30 quarterly average during the next quarter of enrollment.

Academic dismissal. A student will be dropped from the University if he or she (a) begins a quarter on probation and earns a quarterly grade average below 2.00 or (b) begins a quarter on continuing probation and, fails to raise his or her cumulative grade average to at least 2.00 or, alternatively, fails to attain at least a 2.30 quarterly average.

Under unusual circumstances involving consistent patterns of course withdrawal or course repeats, a student whose cumulative grade average is 2.00 or higher may be dismissed from the University. The provost may authorize dismissal in these unusual cases after reviewing records presented by the registrar.

A student who has been dismissed for low scholarship may not enroll for Western courses, except for Summer Session courses and for contract and correspondence courses through the Independent Study Office. Course work through these programs does not guarantee future reinstatement as a degree candidate.

Removal from probation occurs at the end of a quarter during which a student has improved his or her cumulative grade average to 2.00 or higher.

REINSTATEMENT

Students who have been dismissed for low scholarship can seek reinstatement. Responsibility for reinstatement to the University rests with the Scholastic Standing Committee. Petitions for reinstatement and information on the procedure are available in the Academic Advising Center, Old Main 275.

Factors considered in determining reinstatement may include measure of academic aptitude, lapse of time since dismissal, change of major goals, nature of academic or other experience since dismissal or extenuating circumstances.

Petitions are due in the Academic

Advising Center prior to the fifth week of the quarter (in summer quarter, prior to the fourth week). Petitions received by those deadlines are reviewed for readmission to the following quarter.

ACADEMIC GRIEVANCE POLICY

The text and procedures of Western's

Academic Grievance Policy are contained in Appendix F in the back of this catalog.

STUDENT RECORDS POLICY

For the complete text of this policy, see Appendix E in the back of this catalog.



University Graduation Requirements

GENERAL REQUIREMENTS FOR BACHELOR'S DEGREES

A student should expect to matriculate and graduate according to the general requirements in the catalog current at the time he or she enrolls. Students should expect to meet the specific requirements of the departments for majors and minors in the catalog current at the time they declare major and minor to the appropriate department.

If the student interrupts enrollment for more than two consecutive quarters (summer quarter not included), he or she shall meet the demands of the catalog in force at the time of readmission.

While the University reserves the right to change the regulations concerning admission and requirements for graduation, it shall be the policy of the University to give adequate notice prior to effecting any significant changes and to make reasonable adjustments in individual cases where hardship may be occasioned.

The following requirements are common to all undergraduate divisions of Western Washington University. For requirements unique to a given university division, see sections concerning the College of Arts and Sciences, College of Business and Economics, Woodring College of Education, College of Fine and Performing Arts, Fairhaven College and Huxley College of Environmental Studies.

- Minimum of 180 quarter hours of credit. Normally, Western Washington University's baccalaureate degrees require 180 credit hours. Some fields require a larger number of credit hours, and students who major in these fields should anticipate that they may require more than four years

to complete their programs. Students majoring in these fields are encouraged to seek advisement early in their academic careers. Also, programs that are highly sequential necessitate careful planning, the lack of which may result in extended work beyond the minimum required.

- At least one full year of residence study (45 credits minimum), including the final quarter before issuance of a degree. Study Abroad programs are acceptable as residence credit to a maximum of 45 credits. Correspondence, credit by examination and advanced placement credit are not included in this total.
- At least 60 credits in upper-division study (courses 300 or above)
- Satisfy writing proficiency requirements
- General University Requirements (see following section). These general requirements must be satisfied by all students except those enrolled in Fairhaven College, where a separate core program is required.
- Approved academic major
- Scholarship meeting minimums prescribed by the university divisions and academic departments, including a cumulative WWU GPA of at least 2.00.

DEGREE PLANNING AND PROGRESS RECORD — "THE BLUE BOOK"

During orientation each entering student is provided a personal cumulative record and planning book. Typically referred to as "The Blue Book," it records transfer credit,

provides a convenient check list for completion of General University Requirements, and includes space for records regarding admissions test scores, completion of major requirements, procedures for declaration of major and the student advisement process. Transfer student blue books indicate the manner in which transfer credits are used to meet General University Requirements. The blue book also is used to record the student's senior evaluation, a document which provides a record of all courses completed and those needed for completion of a baccalaureate degree.

BACCALAUREATE DEGREES WITH TWO MAJORS

Any undergraduate student at Western Washington University may attempt to earn a bachelor's degree with two majors. While there is no requirement that such a degree program include more than 180 credits, it may be impossible to complete within this minimum. The student's application for such a degree must indicate both majors and be approved by both departments or academic units involved. The majors involved must be distinct and may not be based on essentially the same constellation of courses.

After earning a bachelor's degree, a student may complete an additional major without earning a second bachelor's degree. The student must enroll officially in the school or college which offers the major and must schedule a new senior evaluation.

MORE THAN ONE BACCALAUREATE DEGREE

A student may earn from Western only one of each type of degree offered (B.A., B.S., B.A. in Ed., B.F.A., B. Mus.). Two distinct bachelor's degrees associated with different majors may be earned simultaneously, but the total number of aca-

demically earned credits must be at least 225, and the student must satisfy all requirements of each degree program. The majors involved may not be based significantly on the same constellation of courses.

A student who has already earned a baccalaureate degree may enroll to earn a second undergraduate degree associated with a different major. Such a student must enroll officially in the school or college which offers a major associated with the new degree, earn at least 45 academic credits beyond the number earned when the first degree was granted, maintain a cumulative grade point average of at least 2.00 on the last 45 credits earned and satisfy all requirements of the second degree program. A degree application and evaluation should be scheduled in the Registrar's Office early during the program.*

BACCALAUREATE DEGREE AND TEACHING CREDENTIAL

The prospective teacher may earn the Bachelor of Arts in Education degree, completing one or more of the appropriate teaching majors offered within the various schools, colleges and departments of Western. The student (usually with plans to teach at the secondary school level) who wishes to complete an appropriate Bachelor of Arts or Bachelor of Science degree program may also earn teaching credentials without earning the B.A. in Ed. degree. Requirements for teaching credentials may be completed at the same time the B.A. or B.S. degree is earned, or subsequently. Such students must be admitted officially to the profes-

**Exception: The B.F.A. degree may be awarded to a student who has earned fewer than 45 additional credits since completing a B.A. degree, provided the student has earned at least 225 total credits.*

Graduation Requirements

sional education program of the Woodring College of Education and complete the required professional sequence. They must also maintain a cumulative grade average at the level required for the B.A. in Ed. degree.

WRITING PROFICIENCY REQUIREMENTS

Western Washington University believes that development of writing proficiency should be pursued systematically throughout the course of study. To that end Western has established a program of writing courses and support services beginning in the freshman year and extending to upper-level writing-proficiency courses offered throughout the University.

Students whose college admission scores indicate a need for additional work in English composition will be notified that they are required to pass English 100, "Review of Syntax and Usage," before registering for English 101.

All students must satisfy Block A of the GUR Communications requirement during their freshman year, except Fairhaven College students who must take Fairhaven 101 and 208 or Fairhaven 301 and 208.

All students must pass a writing proficiency course before graduation. Before taking the writing proficiency course, students must pass the junior writing exam (JWE), which evaluates language and writing skills. The JWE should be taken at the end of the sophomore year or no later than the first quarter of the junior year. This exam is given several times each quarter by the Testing Center. Students who pass the JWE may enroll directly in a writing proficiency course, usually but not necessarily in their majors. Students who do not pass the JWE should not attempt it again without improving their writing skills by enrolling in a composition course or by attending tutorial sessions at the Writing Center.

Writing proficiency courses are listed in the *Timetable of Classes*.

GENERAL UNIVERSITY REQUIREMENTS

The General University Requirements embody Western's belief that liberal education—education in breadth—is as important for informed and effective participation in contemporary life as specialized education. Accordingly, Western graduates not only complete a formal major in an academic or professional field, but they also devote a significant part of their study to courses in communication, humanities, social science, natural science, mathematics, and non-western and minority cultural studies. The General University Requirements are Western's way of ensuring that students have an opportunity to encounter language, literature, philosophy, history and art; to become acquainted with the methods and subject matter of natural and social sciences; to think about the values of their own and other civilizations; to consider relationships among fields of knowledge; and to develop college-level skills in critical reading, effective communication and mathematics. Western believes that liberal education enables people to lead more interesting lives, to perceive and to understand more of the world around and within themselves, and to participate more intelligently, sensitively and deliberately in shaping that world.

General University Requirements apply to all students in the College of Arts and Sciences, College of Business and Economics, College of Fine and Performing Arts, Huxley College and College of Education. Fairhaven College students see Fairhaven College section.

General University Requirements must be completed by a candidate for a baccalaureate degree except where the student has demonstrated proficiency through an acceptable

college-level examination or through challenge procedure (see "Advanced Placement and Course Challenge" in the Academic Regulations section of the catalog).

The student should study carefully the requirements of his or her major and the course descriptions before planning courses to satisfy the General University Requirements, as some required courses in the major may also apply to General University Requirements. If questions arise, the student should confer with a credit evaluator in the Registrar's Office.

Twelve-Credit Limit Per Department

Twelve (12) credits from one department is the maximum that may be applied toward General University Requirements except from the Department of Liberal Studies.

Although more than 12 credits may be taken from the Liberal Studies Department to apply toward the total General University Requirements, the maximum for individual areas must be observed.

Grades in GUR Courses

Courses which are to apply to General University Requirements must be taken on an A-F grading scale. They may not be taken with Pass/No Pass grading.

Transfer Credit to Satisfy GUR

Transfer students from Washington community colleges may satisfy the GUR by taking courses listed in the *Transfer Advisers Handbook* which is available at each community college. Following these listings is generally the best way for the community college student to satisfy the GUR as applicability of courses does not depend upon receipt of an A.A. degree.

Approved Associate of Arts degrees from community colleges in Washington may fulfill all General Univer-

sity Requirements. Students at community colleges who wish to satisfy the General University Requirements by earning an Associate degree should check carefully with advisers, as only certain approved degrees will apply. To meet the GUR, an Associate degree must normally be earned **prior** to initial enrollment at Western as a transfer student.

Components of the General University Requirements

In issues that they address and in methods that they represent, the components of the General University Requirements intersect at many points. Together, they mark the dimensions of a liberal education.

COMMUNICATIONS

The Communications requirement provides opportunity to develop the skills and techniques of articulate verbal expression. It comprises courses that are primarily concerned with rhetoric, logic and style in written and spoken communication. Words are crucial tools of thought. Ability to use them to formulate and to express ideas clearly, coherently and persuasively is fundamental to a college education.

Complete Both A and B

All students must satisfy Block A of the Communications section of the General University Requirements prior to completion of 45 credits.

- A. ENGLISH 101, Language and Exposition (4) (Waived for students demonstrating high English competency on college entrance exams.) English 101 must be completed with a C- or better.
- B. One course from the following:
ENGLISH 201, Expository Writing (4); 202, Writing About Literature (4); 301, Advanced Composition (4).

Graduation Requirements

FOREIGN LANGUAGE 103 (5) or 104 (5).

PHILOSOPHY 107, Logical Thinking (3).

COMMUNICATION 101, Fundamentals of Communication (3); 235, Exposition and Argumentation (4).

HUMANITIES

The Humanities requirement provides an introduction to the subject matter, methods of inquiry and forms of expression of academic fields that treat language, literature, fine arts, history, philosophy and religion in the Western cultural tradition. The humanities study principal themes, issues and images concerning human beings and their place in the universe, as these have been shaped and expressed since ancient times, in thought, imagination and action.

Course work must be distributed among at least three departments with no more than 10 credits from any one department.

Select a minimum of 20 credits from the following:

ART HISTORY 190, Art Appreciation (3); 220, Survey of Western Art History I (3); 230, Survey of Western Art History II (3); 240, Survey of Western Art History III (3).

CLASSICAL STUDIES 250, Survey of Classical Literature (5); 350, Greek and Roman Mythology (3).

ENGLISH 214, Introduction to Shakespeare (5); 215, Survey of British Literature (5); 216, Survey of American Literature (5); 238, Society Through its Literature (5); 281, Western World Literature: Classical and Medieval (5); 282, Western World Literature: Renaissance and Neoclassical (5); 283, Western World Literature: Romantic and Modern (5); 336, The Bible as Literature (5) (English 336 and Liberal Studies 235 may not both be taken for GUR credit).

FOREIGN LANGUAGES, any European foreign language course num-

bered 200 and above and involving actual instruction in the foreign language. (Advance placement credit may not be applied.)

HISTORY 103, Introduction to American Civilization (5); 104, Introduction to American Civilization (5); 111, Introduction to Western Civilization (Prehistory to 476) (5); 112, Introduction to Western Civilization (476-1713) (5); 113, Introduction to Western Civilization (1713 to Present) (5); 267, Christianity in History (5); 347, European Intellectual History (5); 348, European Intellectual History (5).

JOURNALISM 190, Introduction to Mass Media (4).

LIBERAL STUDIES 121, The Western Tradition I: Ancient (5); 122, The Western Tradition II: Medieval (5); 123, The Western Tradition III: Modern (5); 231, Introduction to the Study of Religion (4); 232, Myth and Folklore (4); 235, The Biblical Tradition (4) (Liberal Studies 235 and English 336 may not both be taken for GUR credit); 242, Music and the Ideas of Western Man (4) (Liberal Studies 242 and Music 105 may not both be taken for GUR credit); 243, Arts and Ideas (4); 332, Universal Religions: Founders and Disciples (4); 333, Religion in America (4).

MUSIC 104, The Art of Listening to Music (3); Music 105, Music in the Western World (3) (Music 105 and Liberal Studies 242 may not both be taken for GUR credit).

PHILOSOPHY 112, Introduction to Philosophy: Moral Issues (3); 113, Philosophy of Religion: Understanding Religion (3); 201, Introduction to Philosophy: Knowledge and Reality (3); 315, Introduction to Existentialism (3); 340, Philosophy of Science (3); 350, Political Philosophy (3) (Philosophy 350 and Political Science 360 may not both be taken for GUR credit); 360, Society, Law and Morality (3).

POLITICAL SCIENCE 360, Introduction to Political Theory (5) (Political

Science 360 and Philosophy 350 may not both be taken for GUR credit).

THEATRE ARTS 101, Introduction to the Art of the Theatre (3); 201, Introduction to the Cinema (3); 231, Dance and Culture (3).

SOCIAL SCIENCES

The Social Sciences requirement provides an introduction to the content, methods and applications of academic fields that treat psychological, social, political and economic behavior, development and variation of human culture, and uses of geographical space. Though differing in subject and approach, the social sciences insist in common on empirical investigation and seek to discover coherent patterns in human activity.

Course work must be distributed among at least three departments with no more than 10 credits from any one department.

Select a minimum of 17 credits from the following:

ANTHROPOLOGY 102, Introduction to Human Origins (5); 201, Introduction to Cultural Anthropology (5); 210, Introduction to Archaeology (5).

CANADIAN-AMERICAN STUDIES 200, Introduction to Canadian Studies (5).

ECONOMICS 206, Introduction to Micro-Economics (4); 207, Introduction to Macro-Economics (4).

EDUCATIONAL ADMINISTRATION AND FOUNDATIONS 311, Global Issues and American Education (4).

ENVIRONMENTAL STUDIES 202, Environmental Studies: A Social Science Approach (3).

FAIRHAVEN 211, The American Legal System (5). (Only one of Fairhaven 211, Management 271, Political Science 311 may be taken for GUR credit.)

GEOGRAPHY 201, Human Geography (5); 205, Economic Geography (5); 209, Geography and World Affairs (2).

JOURNALISM 340, The Press and Society (3).



Graduation Requirements

LINGUISTICS 201, Introduction to Linguistic Science (5); 204, Sociolinguistics (3).

MANAGEMENT 271, Law and Business Environment (4). (Only one of Management 271, Fairhaven 211 and Political Science 311 may be taken for GUR credit.)

PHYSICAL EDUCATION 201, Perspectives of Human Lifestyle and Wellness (3).

POLITICAL SCIENCE 101, Government and Politics in the Modern World (5); 250, American Political System (5); 270, Introduction to International Politics (5); 311, Jurisprudence (5). (Only one of Political Science 311, Fairhaven 211 and Management 271 may be taken for GUR credit.)

PSYCHOLOGY 201, Introduction to Psychology (5); 318, Psychology and Culture (3).

SOCIOLOGY 101, Introduction to Sociology (5); 251, Sociology of Social Problems (5); 302, History of Social Thought (5).

NON-WESTERN AND MINORITY CULTURAL STUDIES

This section of the GUR provides an introduction to civilizations of Asia, Africa, the Middle East and Latin America, to minority experience in North America, and to cross-cultural and women studies. Acquaintance with the values and viewpoints of other cultures and societal roles helps overcome provincialism, aids self-understanding and is an important element in an educated outlook on the contemporary world.

Select a minimum of 8 credits from the following:

AMERICAN CULTURAL STUDIES 203, The Hispano/a-American Experience (3); 205, The Asian American Experience (3); 301, Comparative Cultural Studies (4).

ANTHROPOLOGY 353, Sex Roles in Culture (4) (Anthropology 353 and Psychology 219 may not both be taken for GUR credit); 361, Indians of North America (5); 362, Peoples of Asia (5); 364, Peoples of the Pacific (5); 365, Peoples of Latin America (5).

ART HISTORY 270, Survey of Asian Art: India, China, Japan (3).

EAST ASIAN STUDIES 201, The Cultures of East Asia: Political-Material Aspects (5); 202, The Cultures of East Asia: Religio-Philosophic and Literary Aspects (5).

ENGLISH 234, Introduction to African-American Literature (4); 335, Post-Colonial Literatures (4); 338, Women and Literature (4).

FOREIGN LANGUAGES. Any non-European foreign language course numbered 200 and above and involving actual instruction in the foreign language. (Advanced placement credit may not be applied.)

GEOGRAPHY 315, East and South Asia (5); 319, Africa (5); 321, India, Pakistan and Bangladesh (3); 322, The Middle East (3).

HISTORY 261, Black History in the Americas (5); 271, Introduction to Latin American Civilization (5); 273, Latin America (5); 275, The Indian in American History (5); 280, Introduction to East Asian Civilization (5); 285, Introduction to African Civilization (5); 286, Modern Africa (5); 287, Introduction to Islamic Civilization (5); 361, Black History in the Americas: The Slavery Era (5); 385, Precolonial Africa (5); 387, History of the Jews (5).

LIBERAL STUDIES 271, Humanities of India (4); 272, Mythology/Religion and Society in China and Japan (4); 273, Artistic Expression and Society in China and Japan (4); 274, Society and Literature in China and Japan (4); 275, Humanities of Japan (4); 276, Humanities in Africa (4); 277, Humanities of China (4); 370, Major Non-Western Traditions: The Traditional Order (4); 371, Major Non-Western

Traditions: Their Modern Fate (4); 372, Individual and Society in Contemporary Non-Western Literature (4); 373, Ideology and Experience in the Contemporary Non-Western World: Conservatives, Reformers, Revolutionaries (4).

MUSIC 205, Survey of Non-Western Musical Cultures (3).

POLITICAL SCIENCE 346, Politics of Inequality (5).

PSYCHOLOGY 219, The Psychology of Sex Roles (4) (Psychology 219 and Anthropology 353 may not both be taken for GUR credit).

WOMEN STUDIES 211, Introduction to Women Studies (4).

MATHEMATICS

The Mathematics requirement provides a college-level foundation in quantitative thinking in the form of college algebra, computer science or symbolic logic. Mathematics is the fundamental tool of social and natural sciences and of technology, and is employed in a wide range of academic and professional fields. Knowledge of mathematical technique is an important part of a contemporary education.

Many students will complete mathematics or computer science courses as a part of their major programs. Normally, these courses will also satisfy the General University Requirement in mathematics. Students are therefore advised to study the requirements of their intended majors before registering for courses in mathematics or computer science.

Initial enrollment in mathematics courses is normally based upon the results of placement examinations. Students are advised to study the information on "academic placement" in the Department of Mathematics section of this catalog.

Complete Both Part A and Part B Below

Part A must be satisfied prior to the completion of 60 quarter hours of

credit. Part B must be satisfied prior to the completion of 120 credits.

Note: Students who demonstrate that they are prepared to study mathematics beyond the level of Math 102 when they enter the University will satisfy the entire General University Requirement in mathematics by completing Part B.

- A. Mathematics 102, Intermediate Algebra. (Satisfy by passing Math 102, by passing a comparable achievement examination,* or, if placement scores are adequate, by completing Part B below.)
- B. Complete one of the following:
 1. Any mathematics course numbered 103 or higher (see #4 below if Math 151 is selected).
 2. Any computer science course except CS 101.
 3. Phil 102, Introduction to Logic, *plus* Math 102 or comparable achievement examination.*
 4. Math 151, Introduction to Mathematics, *plus* Math 102 or comparable achievement examination.*
 5. An examination demonstrating achievement at the level of Math 103 or higher.* (Students who pass this examination may wish to study additional mathematics, but will not be required to do so unless mathematics courses are necessary in the major field of study.)

NATURAL SCIENCES

The Natural Sciences requirement provides an introduction to the content and methods of the physical and biological sciences. These fields

**The achievement examinations comparable to Math 102 and 103 are administered regularly and may be attempted only once each. They do not yield academic credit, but when passed satisfy the comparable mathematics section of the General University Requirements.*

Graduation Requirements

investigate natural phenomena, ranging from the origin of the universe to development of life forms to the structure of the atom. Their methods include direct and indirect observation, experimentation, and construction of theoretical models of natural systems.

Complete both A and B of Option I or complete Option II.

I. Students are advised to complete the three courses in Section A before enrolling in the course in Section B.

A. One course from three of the four following areas:

BIOLOGY 101, Principles of General Biology (4); 121, Biological Diversity and Evolution (4).

CHEMISTRY 101, Chemical Concepts (4); 115, General Chemistry (5); 121, General Chemistry I (5).

GEOLOGY 101, General Geology (4); 211, Physical Geology (5).

PHYSICS 101, Physics for the Liberal Arts (4); 114, Principles of Physics I (5); 115, Principles of Physics II (5); 116, Principles of Physics III (5); 121, Physics with Calculus I (5).

B. One additional course from Section A above or one course from the following list:

ANTHROPOLOGY 215, Introduction to Biological Anthropology (5).

ASTRONOMY 103, Astronomy for the Liberal Arts (4); 315, General Astronomy: Solar System (4); 316, General Astronomy: Stars (4).

BIOLOGY 122, Biology of Organisms (4); 123, Cellular and Molecular Biology (4); 202, Field Biology of the Northwest: Flowering Plants, Conifers and Ferns (3); 205, Field Biology of the Northwest: Marine Biology (3); 223, Foreign Chemicals and Natural Systems (3); 384, Biology and Society (4).

CHEMISTRY 122, General Chemistry II (5); 123, General Chemistry III (5); 251, Elementary Organic Chemistry (5).

ENVIRONMENTAL STUDIES 110, Environmental Studies: A Scientific Approach (3); 204, The Oceans: Topics in Marine Science (3).

GEOGRAPHY 203, Physical Geography (5).

GEOLOGY 102, Plate Tectonics and Continental Drift (4); 212, Historical Geology (4); 214, Environmental Geology (3); 315, Minerals, Energy, and Society (4); 252, The Earth and Its Weather (4).

HOME ECONOMICS 250, Human Nutrition (3).

PHYSICS 122, Physics with Calculus II (5).

II. Complete one of the following sequences:

BIOLOGY 121, 122, 123.

CHEMISTRY 121, 122, 123.

GEOLOGY 211, 212 and one of 214, 310, 316, or 340.

PHYSICS 114, 115, 116 or 121, 122, 123, 125.

PROCEDURES FOR APPLYING FOR INITIAL BACHELOR'S DEGREE AND/OR TEACHING CERTIFICATE

Degrees and/or teaching certificates are not automatically awarded when requirements are completed. It is the responsibility of the student to make application in the Registrar's Office no later than the last day of classes of the quarter prior to the final quarter, and it is strongly recommended that the student appear for the evaluation and application at least two quarters in advance of completion. Complete instructions are available in the Registrar's Office.

All-University Programs

Western Washington University is organized into six colleges and a Graduate School. This organization not only accommodates Western's size and complexity, but also enables flexibility and innovation in Western's curriculum.

Some programs at Western are available through one department or college; some are interdisciplinary, involving several academic units; and some, the All-University Programs listed below, involve all or most of Western's departments, colleges and school:

- University Extended Programs
- Field Experience
- Foreign Study
- Honors Program
- Library Instruction
- Freshman Seminar
- Professional Transfer Programs

Academic opportunities available through Western's All-University Programs are described below.

UNIVERSITY EXTENDED PROGRAMS

University Extended Programs offers educational opportunities for groups and individuals who wish to continue their personal and/or educational goals outside the regular curriculum schedule.

Continuing Education offers credit and non-credit courses in the evening and on weekends, on and off campus. These courses are listed in *After Hours*, a quarterly publication.

Conference Services coordinates workshops, meetings, seminars and conferences for public and private organizations, providing an opportunity for working professionals and special interest groups to update and expand their knowledge.

Independent Study offers a variety of educational alternatives. Correspondence courses provide flexibility and give an opportunity to earn extra credits toward graduation. Students may take correspondence courses while on or off campus, working at their own pace. Contract courses, which are designed by the student and a faculty adviser, afford an opportunity to work on a special project when students are not enrolled in on-campus courses. Students are given up to one year to complete their course work.

For further information or to receive the *After Hours* bulletin, contact University Extended Programs, Western Washington University, Old Main 400, Bellingham, WA 98225-9042, or phone (206) 676-3320.

FIELD EXPERIENCE PROGRAMS

Western Washington University recognizes the value of work experience outside the classroom as a supplement to the student's general education and major area studies. Thus the University offers opportunities for field experiences, including practica, internships and cooperative education in a variety of community businesses, organizations and governmental agencies. These experience situations are arranged beforehand to accomplish specific goals agreed upon by the student, sponsoring faculty member and employer. Students should contact the Career Planning and Placement Center for additional information.

FOREIGN STUDY

WWU offers a wide variety of study abroad opportunities. The most popular are quarter and year-round liberal arts programs in England,

All University Programs

France, Germany, Italy, Greece, Spain and Mexico. Designed to give students a complete foreign study experience in the host country, each program includes numerous excursions to historical and cultural sites and a wide range of activities which complement formal classroom work. The Foreign Study office co-sponsors semester and academic year programs at universities in France, Spain, Japan and the People's Republic of China, which feature intensive language study, international business, civilization and culture. Through its membership in ISEP, WWU can provide year-long exchanges with 90 universities in 30 countries. Students register at WWU before departure, carry normal course loads for the quarter (12-15 credits) and may receive financial aid. Foreign Study courses within a department are normally assigned 137, 237, 337 or 437 numbers. Since special application and registration procedures are required for participation in foreign study programs, students should consult with the Foreign Study Office, Old Main 530b, well in advance of their planned quarter abroad. As program size is limited, early application is recommended.

Students may also receive credit for foreign study through (a) specialized programs sponsored by WWU departments or colleges, (b) programs sponsored by accredited U.S. colleges or universities, (c) study at foreign universities, and (d) independent study arranged through departments and colleges by the Foreign Study Office. WWU offers a minor in foreign studies consisting of courses taken abroad, cross cultural study, and related academic work in a variety of disciplines.

The Foreign Study Office is expanding its services to include domestic as well as international exchange. The National Student Exchange (NSE) is a consortium of 100 colleges and universities in 46 states and territories which allows students to study for a

semester or year on exchange at resident tuition rates. Participants explore their academic interests at a host college, while experiencing a different culture, geographical setting and climate (there are member institutions in Alaska, Hawaii, Virgin Islands, Puerto Rico).

Contact the Foreign Study Office, Old Main 530b, (206) 676-3298, for further information on study, travel and work abroad.

THE HONORS PROGRAM

Western's Honors Program provides a challenging opportunity for *undergraduate* students of high academic attainment to realize their potential. Freshmen and transfer students are invited into the Honors Program on the bases of entrance exams, *academic achievement*, recommendations and interviews. Students already enrolled at Western may enter the program on the above bases and on the recommendation of a University instructor.

Students in the Honors Program are eligible for Honors GUR courses and seminars in a wide variety of subjects. They also have the opportunity to undertake extended Honors independent study projects in their major fields.

Students interested in the program should contact the Honors Office, Miller Hall 228, phone (206) 676-3034, for more details.

Requirements for Graduation through the Honors Program

Students who enter the program as freshmen must complete the General University Requirements as specified in this catalog with the following GUR courses taken through the Honors Program. GUR areas which these courses satisfy are shown in parentheses.

- Honors 105, Modes of Knowing (Part B of the Communications requirement)

- Honors 151, The Western Traditions I (Humanities)
- Honors 153, The Western Traditions II (Humanities)
- Honors 155, The Non-Western Traditions (Non-Western and Minority Cultural Studies)
- One Honors science course from Honors 157, 158, or 159 (Science). Waived for science and mathematics majors.
- One Honors social science course from Honors 251, 252, or 253 (Social Science)
- One Honors philosophy course from Honors 255 or 256 (Humanities)

Honors strongly recommends that students take as much of their GUR work as possible through the program.

- Two Honors seminars
- Senior Project. Completion of a senior project (mathematics majors may substitute a comprehensive examination, administered by the Mathematics Department, for the senior project)

Transfer students entering with AA degrees, and other students who have completed their General University Requirements:

- Completion of 12 credits in honors seminars
- Completion of a senior project (mathematics majors may substitute a comprehensive examination administered by the Mathematics Department for the senior project)

Already enrolled Western students or transfer students who enter the Honors Program prior to completion of their GUR:

- Completion of 12 credits in honors seminars
- Completion of a senior project (mathematics majors may substitute a comprehensive examination administered by the Mathematics Department for the senior project)

Students in this category are encouraged to take as much of their outstanding General University Requirements through Honors as possible.

Additional requirements for graduation through the Honors Program:

- A cumulative grade point average of at least 3.50 for the last 90 graded credits of University-level work
- Completion of departmental requirements where they exist

Honors Courses (Non-departmental)

105 MODES OF KNOWING (4)

An introduction to the principles and meaning of human inquiry. Includes the study of inductive and deductive reasoning, the major schools of philosophical thinking, and an investigation of the methods of the sciences, the social sciences and the humanities.

151 THE WESTERN TRADITION I (4)

An interdisciplinary introduction to the humanities of the Western World from ancient times to the early Middle Ages. Emphasizes the study of literature, historical and philosophical writing, and the plastic arts in their historical contexts.

153 THE WESTERN TRADITION II (4)

An interdisciplinary investigation of the humanities of the Western World from the 11th to the 19th centuries. Emphasizes the study of historical and philosophical writing, literature, the plastic arts and music in their historical milieu.

155 THE NON-WESTERN TRADITIONS (4)

An introduction to the civilization and culture of one or more of the following areas: Africa, China, Japan and India. Emphasizes the study of literature, philosophical and historical writing, and art in the historical context from which they have emerged.

157 SCIENCE I — PHYSICS (4)

Laws of motion. Conservation of energy and momentum. Gravitation. Electricity and magnetism. Sound and light waves. Radioactivity. Fission and fusion.

All University Programs

158 SCIENCE II — GEOLOGY (4)

Origin of the earth. The ways in which different types of rocks form, how their ages can be determined and the implications of those ages for the age of the earth. Volcanology, mountain building and evolution of the continents as a result of surface processes and plate tectonics. The theory of plate tectonics, including earthquakes and paleomagnetism.

159 SCIENCE III — BIOLOGY (4)

Basic biology, emphasizing cellular, molecular and evolutionary processes. The energetics of living systems, with emphasis on the activities of photosynthesis and respiration and their relationship to the first and second laws of thermodynamics. The physical structure of the hereditary material DNA and its involvement in information flow in the cell.

251 PSYCHOLOGY (5)

Examination of basic psychological processes utilizing results of research investigations.

252 SOCIOLOGY (5)

Basic problems and concepts in the study of society: social change and organization, human behavior in the family, education, religion, cities, social class, race, age, sex and the structure of society, sociology as science and as response to human problems.

253 ANTHROPOLOGY (5)

The study of societies that contrast with Western civilization, leading to an acquaintance with the concept of culture and its importance to an understanding of human behavior. Emphasis on understanding each culture from its own point of view rather than our own.

255 ETHICS (3)

Introduction to philosophical thinking about moral problems. Seeks to understand central moral concepts such as good, right and duty in the context of contemporary issues.

256 KNOWLEDGE AND REALITY (3)

Emphasis is given to the nature and possibility of knowledge, to related concepts such as truth, belief and evidence, and to select metaphysical problems.

350-359 SEMINAR (2-4 ea)

490 SENIOR PROJECT (2 credits per quarter, Repeatable to 6 credits) S/U grading

LIBRARY INSTRUCTION

The faculty of the libraries offer instruction in library research in several ways: team-teaching with faculty in various departments, tours and workshops, and Library 201.

LIBRARY INSTRUCTION

201 INTRODUCTION TO LIBRARY STRATEGIES (2)

Introduces students to the nature of library research with emphasis upon strategies for carrying out inquiry, evaluating sources and incorporating the results into subsequent written assignments. Offered by members of the library faculty.

FRESHMAN SEMINAR

Designed for first-year students, the Freshman Seminar, University 101, is aimed at helping new students succeed in the University.

Through the seminar, freshman students will have an opportunity to learn more about Western's traditions and values, develop skills for success inside and outside the classroom, and increase awareness of student opportunities and responsibilities at Western. Topics such as study skills, faculty expectations, the campus community, using Wilson Library, and choosing a major will be explored.

The class will be small and will emphasize working with other students in the class and with the instructor.

UNIVERSITY

101 VALUES AND TRADITIONS IN HIGHER EDUCATION (2)

Prereq: freshman or sophomore status. An introduction to the purposes and values embodied in higher education and an exploration of how those purposes and values can be achieved at Western.

PROFESSIONAL TRANSFER PROGRAMS

The following suggestions will assist students planning to complete a professional program at another institution. Students should seek advice from a professional transfer adviser.

as soon as possible for curriculum planning, test requirements and information on application procedures. Completion of the suggested courses does not guarantee admission to a professional degree program. The institution to which the student is transferring determines admission to the program and makes decisions regarding the transferability of credit.

Catalogs from in-state institutions and assistance in clarifying transfer procedures are available in the Academic Advising Center. Programs undergo constant revision, and, as changes occur, the following program recommendations may become outdated. The student, therefore, must bear responsibility for continued contact with the transfer institution and the on-campus adviser.

Minority and women students are actively sought by professional schools.

Architecture

Western offers two years of undergraduate study which may be transferred to the University of Washington as the liberal arts component of a baccalaureate degree program. Pre-majors are required to complete a balanced distribution of courses during the first two years based on recommendations found in the University of Washington General Catalog.

Washington State University offers baccalaureate level architectural studies. Pre-major requirements include completion of the General University Requirements and specifically recommended courses listed in the Washington State University Bulletin.

Program Adviser:
Dr. Robert Raudebaugh,
Department of Technology

Dental Hygiene

Associate and baccalaureate programs in dental hygiene are available

in several Washington institutions of higher education. Graduates of two- or three-year certificate or associate degree programs are generally limited to dental office practice and some public health positions. Hygienists with baccalaureate degrees may work in private practice, and with office experience are eligible for beginning dental hygiene teaching or administrative public health positions.

A list of dental hygiene programs in the State of Washington and prerequisite courses for admission to these programs is available from the program adviser.

Program Adviser: Dr. John C. Whitmer, Department of Chemistry

Dentistry

Admission to the professional schools of dentistry is highly competitive; therefore, a pre-dental program should be planned with care. Electives should be relevant to dentistry, and every effort should be made to maintain high scholarship.

Since dental schools give valuable advice and information about admission standards and requirements, it is wise for pre-dental students to contact dental schools early in their program. The following courses are required for application to the University of Washington School of Dentistry:

- Biology 121, 122, 123, 212, 348
- Chemistry 121, 122, 351, 352
- Physics 114, 115, 116 (or 121, 122, 123)
- Also recommended: Biology 210, 349
- Electives: Equally important is a background in the social sciences and humanities. Although there are no firm requirements, courses in English literature, economics, sociology, psychology, anthropology and philosophy are excellent scientific and humanistic studies for pre-dental students

All University Programs

For further information contact the pre-dental adviser.

Program Adviser: Dr. John C. Whitmer, Department of Chemistry

Engineering

Western provides two curricular paths to a career in engineering. The Two-Plus-Two program requires two years of study at Western Washington University followed by two or more years of study at an engineering college.

The second path is a dual degree program, the Three-Two program, that requires three years at Western Washington University followed by two years of study at the College of Engineering at the University of Washington. At the conclusion of this five-year program students will receive two degrees: the Bachelor of Arts from Western and the Bachelor of Science in Engineering from the University of Washington.

The primary purpose of both pre-engineering programs is to provide a strong fundamental education in mathematics, physical science, computer science and liberal arts to develop skills necessary for success at an engineering college. In addition to courses in science and mathematics, engineering schools and colleges also require additional courses distributed in social sciences and humanities, which can be selected from Western's offerings, to meet the requirements of the specific engineering school to which the student intends to transfer. Note that most engineering schools specify a minimum number of credits completed and a competitive grade point average for admission to a given engineering program.

Pre-Engineering Program

While at Western students may complete two years of courses in physics, mathematics, chemistry, computer science and English. The choice of courses should be tailored to meet the requirements of the engineering

school to which the student plans to transfer. Transfer generally occurs after two years of study.

Three-Two Dual Degree Program

Western cooperates with the College of Engineering of the University of Washington in a program of engineering education based upon a broad foundation of liberal arts. The program consists of three years at Western Washington University followed by two years in the College of Engineering at the University of Washington. The nature of the program makes it difficult to pursue by students who do not begin at Western as freshmen. A minimum of 135 credits must be completed prior to leaving Western for the University of Washington, and at least 90 of these must be earned at Western.

While at Western students may complete the pre-engineering courses listed below and take General University Requirements in communications, humanities, social sciences, non-western and minority cultural studies, math, and science for the Bachelor of Arts degree. Upon successful completion of the program the student will receive the Bachelor of Arts from Western Washington University and the Bachelor of Science in Engineering from the University of Washington. This two-degree program provides an excellent liberal arts, mathematics and science background prior to specialization in engineering. The combined program is competitive and designed specifically for students who have strong preparation in communication skills, mathematics and science.

Although the curriculum offers considerable freedom of choice, it does *not* guarantee admission to the College of Engineering at the University of Washington. If, at the end of two years, students find their interest developing in a field outside science or technology, they can readily change to several non-science majors and graduate in two addi-

tional years. Similar options exist through the junior year for programs in science and technology. This flexibility is particularly advantageous to capable students whose abilities and interests span many fields.

Introductory core courses

- Chemistry 121, 122
- English 101; 201 or 301 or 402
- Mathematics 124, 125, 204, 224, 331
- Physics 121, 122, 123, 125, 221, 231, 271 and 272 (the entire sequence of 121, 122, 123 and 221 should be completed to minimize transfer problems)
- Computer Science 210, 216

Chemical engineers should complete Chemistry 123, 351, 352, 353, 354, 355 in lieu of Physics 271, 272. Electrical engineers are not required to complete Physics 271, 272.

Check with your pre-engineering adviser for additional courses.

Students not prepared to take Mathematics 124 (Calculus) should enroll in a preparatory sequence, under advisement.

Program Advisers: Dr. Leslie E. Spanel and Dr. L. Barrett (Physics/Astronomy)

Fisheries

The College of Fisheries at the University of Washington provides baccalaureate programs in fishery biology with options in fish culture, invertebrate culture, recreational fisheries, aquatic resource management, water quality, fish industry, environmental studies, and biometrics. Students may complete at least the first two years of a fisheries degree program at Western. Students may also complete a four-year degree program at Western in preparation for graduate work in fisheries at the University of Washington. Close consultation with the program adviser is essential.

Recommended freshman year curriculum:

- Biology 121, 123, 212
- Chemistry 121, 122, 123
- English 101 and 301 (contact the UW for additional requirements)
- Mathematics 124
- General University Requirements

Program Adviser: Dr. Jerry Kraft, Department of Biology

Forestry

Washington State University offers degrees in forest management and range management. The University of Washington offers degrees in forest resource management, forest resource science, logging engineering, wood science and technology, pulp and paper science and technology. Because of the differences in the various forestry curricula, students are urged to attend the pre-forestry advisement session prior to fall quarter registration or to consult with the program adviser as soon as possible. For some curricula, specific courses should be included among the electives.

The Three-Two Dual Degree Program is a cooperative major in forest biology offered by Western and Washington State University. This program culminates in a WWU baccalaureate in biology and a WSU Master of Science in forest and range management.

Program Adviser: Dr. Hubertus Kohn, Department of Biology

Law

Law schools require a baccalaureate degree. They do not require a specific undergraduate major, but do seek students who are broadly educated. Admission is selective based primarily on GPA, LSAT scores and letters of recommendation. Law schools want students who excel in oral and written communications, understand economic, political and social institutions, and have well-developed objective and critical thought processes. Western's General University

All University Programs

Requirements are intended to aid students in realizing these goals.

Careful selection of electives may enhance performance in law school, and undergraduate course selection should reflect the interests and professional objectives of individual students. Therefore, early consultation with the program advisers on course and program decisions is recommended.

The Law School Admission Test (LSAT), normally required of applicants to American and Canadian law schools, is offered on the Western campus several times each year. Applications and test schedule information may be obtained from the Testing Center. Students should plan to take the LSAT late in their junior year or early in their senior year.

Program Adviser: Dr. Eugene Hogan,
Department of Political Science

Medical Technology

At the University of Washington, the four-year medical technology program leads to a Bachelor of Science degree in medical technology. Students at Western may complete 90 quarter credits of study, concentrating on courses which parallel the University of Washington's medical technology program, prerequisites and distribution requirements. It is important to consult with the program adviser early in the first year of the transfer program.

Recommended curriculum for students considering transfer to University of Washington:

First year

- Biology 121, 123, 212
- Chemistry 121, 122, 123
- English 101 and 301 (contact the UW for additional requirements)

Second year

- Chemistry 351, 352
- Biology 348, 349
- Mathematics 124

- University of Washington distribution requirements: 40 credits in humanities and social sciences. Contact the UW Arts and Sciences Advising Office, (206) 543-2551, for information

There are several other medical technology programs in the Northwest. The prerequisites for these programs vary considerably from institution to institution. Contact the program adviser for specific information.

Program Adviser: Dr. Jerry Kraft,
Department of Biology

Medicine

The faculties of the School of Medicine at the University of Washington and other medical schools in the U.S. believe that the appropriate level of scholarly achievement and preparation for medicine can best be developed in a liberal arts program with the emphasis on a major area of interest selected by the student.

In recognition of the diverse opportunities afforded the graduate in medicine, specified entrance requirements are purposely kept to a minimum. This enables each student to pursue, as a major field of study, almost any area of interest — the arts, humanities, social sciences, biological or physical sciences — and still acquire the background necessary to prepare for the Medical College Admission Test (MCAT) and to pursue a medical curriculum. It should be noted that over half of those admitted to medical schools in the past several years have been biology majors. The MCAT must be taken at least one full year prior to the date of admission to medical school; normally it is taken in September at the end of the junior year.

Early consultation with the program adviser at Western is strongly recommended. Students will find it valuable to engage in early and regular discussions of matters such as selection of a major, graduation requirements, course sequences,

MCAT, medical school application procedures and other pertinent information. Students are urged also to contact the pre-professional advisement office (Old Main 380) during the first quarter of their premedical program.

Typical freshman year curriculum:

- Biology 121, 123, 212
- Chemistry 121, 122, 123
- English 101
- Mathematics 124
- General University Requirements

Premed students choosing majors other than biology should also seek advising in their major department.

Information regarding osteopathic, podiatric and all other fields of medical practice is also available from the program adviser.

Program Adviser: Contact Dr. Jerry Kraft, chief premedical adviser, Department of Biology

Nursing

Western offers a one- and a two-year pre-nursing transfer program designed to assist students in meeting the requirements for admission to a nursing program at another college or university. A student may become a registered nurse by completing a nursing program in a two-year community college or a baccalaureate program in a four-year college or university and successfully completing State Board Examination for licensing.

Admission to nursing programs is highly competitive. Each institution selects the number of students that can be accommodated in the upper division. Therefore, no assurance can be given that all applicants admitted to WWU and successfully completing lower-division work will be admitted into the upper-division curriculum at schools offering nursing programs.

Students at Western who wish to enroll in a bachelor's degree in nursing program in Washington state

have the option of transferring to the University of Washington, or the Intercollegiate Center for Nursing Education in Spokane (joint agreement between Eastern Washington University, Washington State University and Whitworth College) as well as several private colleges.

Curriculum requirements for transfer to the University of Washington nursing program include:

- English 101
- Chemistry 115, 251
- Biology 345
- Math 105 (need 5 credits of pre-calculus math)
- Two courses from Sociology 101, Anthropology 201, Psychology 201
- Two high school years, or two college quarters of one foreign language
- Recommended electives: Home Economics 250, Biology 348, 349

At least 45 quarter hours of credit must be completed prior to admission.

Curriculum requirements for transfer to the Washington State University include:

- English 101
- Biology 101, 345, 348, 349
- Chemistry 115, 251, 371
- Home Economics 250
- 32 quarter hours in social sciences and humanities with at least nine from each to include: Psychology 201 and Sociology 101 or 251
- Psychology 306
- Two high school years, or two college quarters of one foreign language

Students enter at the junior level (90 quarter hours completed).

For transfer to Eastern Washington University:

- English 101, 301
- Chemistry 115, 251, 371
- Biology 101, 345, 348, 349
- Communications 224
- 32 quarter hours of credits in

All University Programs

social sciences and humanities with at least nine from each to include: Psychology 201, 316, Sociology 101 or 251.

- Psychology 306
- Home Economics 250

Students enter at the junior level (90 quarter hours completed).

Contact the pre-nursing adviser for any assistance in program planning.

Program Adviser: Renée Warren, Academic Advising Center

Occupational Therapy

Admission to a school of occupational therapy is highly selective. Students wishing to earn a Bachelor of Science degree in occupational therapy may complete their prerequisite courses at Western. The Western curriculum includes courses which will prepare students for transfer into the occupational therapy programs at the University of Washington and the University of Puget Sound. Since graduation requirements vary among institutions, students should obtain specific information concerning the programs prior to their first term of enrollment.

Required courses for transfer into occupational therapy programs:

- Biology 101, 348, 349
- Chemistry 101
- Physics 114
- Psychology 201, 314, 316
- Sociology 101

Additional courses recommended or required (determined by the individual occupational therapy school):

- Sociology 324, 333, 351
- Communication 224
- Educational Curriculum and Instruction 361, 465

Program Adviser: Dr. Evelyn E. Ames, Department of Physical Education, Health, and Recreation

Optometry

Most pre-optometry course requirements (usually about 90 credits) may be satisfied during the student's first

two years at Western. As specific requirements may vary somewhat, students should obtain detailed information from the school they plan to attend.

Recommended curriculum:

- Biology 101, 345, 348, 349
- Chemistry 121, 122, 123, 351, 354
- English 101, 301
- Mathematics 124, 240
- Physics 114, 115, 116
- Psychology 201

All optometry schools require that candidates take the Optometry Admission Test (OAT). It is suggested that this be done well in advance of intended optometry school enrollment.

Program Adviser: Dr. J. J. Veit, Department of Physics

Pharmacy

The five-year program at Washington State University and the University of Washington leads to a Bachelor of Science degree in pharmacy. Western provides a two-year series of courses which prepare students for admission to the College of Pharmacy at either WSU or UW. Detailed information is available from each. Admission is highly selective, and students are encouraged to contact the school of their choice early in the first year and to consult with the program adviser at Western prior to registration.

Recommended curriculum:

- Biology 121, 123, 211, 212, 345
- Chemistry 121, 122, 123, 351, 352, 353, 354, 355
- English: Minimum of 10 credits from English 101, 201, 301, 401 or 402
- Mathematics: 10 credits, Math 155, 157 240
- General University Requirements: 6 credits from the Humanities (art history, English literature, foreign languages, music) and 3 credits from the Social Sciences (anthropology, eco-

nomics, interpersonal communications, psychology, sociology)

The University of Washington School of Pharmacy recommends elective coursework in bioscientific vocabulary, business, computer science, first aid and nutrition. Typing skills and computer application skills are invaluable.

Program Adviser: Dr. Salvatore F. Russo, Department of Chemistry

Physical Therapy

Admission to a school of physical therapy is highly selective. Students may be admitted to an undergraduate certificate program at the junior, senior or post-baccalaureate level. The percentage of students admitted to a certificate program without an undergraduate degree is very low. Also, many physical therapy programs are now only offered at the master's degree level and require the completion of a baccalaureate degree. Students may complete degrees in any subject area.

Admission requirements for entry into a physical therapy program include the completion of a required prerequisite set of courses, three letters of recommendation and the completion of an internship under the direction of a physical therapist. Students also may be required to submit scores from the Allied Health Professions Test or the Graduate Record Exam (master's only). These tests should be taken in the fall quarter of the application year.

Western's curriculum includes courses which prepare students for transfer into physical therapy programs at the University of Washington, Eastern Washington University and the University of Puget Sound. Students are advised to contact the program head at the institution of interest to obtain specific entrance requirements since these vary slightly between institutions.

Required courses for transfer into physical therapy programs:

- Biology 345, 348, 349
- Chemistry 121, 122, 251
- Physics 114, 115, 116
- Psychology 201 plus an additional course

Additional courses highly recommended:

- Chemistry 123
- Biology 340 or Math 240
- Physical Education 301, 302, 303, 485
- Psychology 314, 316

Program Adviser: Dr. Kathleen Knutzen, Department of Physical Education

Veterinary Medicine

The College of Veterinary Medicine at Washington State University requires at least six years of university-level study leading to completion of the Doctor of Veterinary Medicine degree. Western can provide a student with either four years of pre-veterinary training through a degree in biology, chemistry or some other field or a two- to three-year transfer program. It is not absolutely necessary to complete a baccalaureate degree; however, it is advisable to aim toward a degree in the event that one should decide not to go to a veterinary school. Admission is competitive and students are strongly encouraged to consult early with the program adviser and to review admissions requirements.

Recommended freshman year curriculum:

- Biology 121, 123
- Chemistry 121, 122, 123
- English 101 and one of the following: English 301, Communications 101 or 235
- Mathematics 105

Other Western courses which are required for admission include Biology 321, Chemistry 351, 352, 354, 355, and 371 (or 471, 472, 473), and Physics 114, 115, 116.

Program Adviser: Dr. Clyde Senger, Department of Biology

The Graduate School

Dr. Maurice L. Schwartz, Dean

Old Main 430 Phone: (206) 676-3170

WWU is authorized by the State Legislature to award five graduate degrees:

- The Master of Arts (M.A.)
- The Master of Science (M.S.)
- The Master of Education (M.Ed.)
- The Master of Business Administration (MBA)
- The Master of Music (M.Mus.)

Approximately 24 departments and colleges — from Anthropology to Theatre Arts — offer graduate study leading to one of the above degrees.

WWU's graduate programs are accredited by the Northwest Association of Schools and Colleges and by the National Council for the Accreditation of Teacher Education. The University is a member of the Council of Graduate Schools in the United States and adheres to the general policies and criteria established by this national association.

Western Washington University is a member of the Western Interstate Commission for Higher Education (WICHE). Three of WWU's graduate programs have been identified as unique or exemplary. Candidates from designated Western member states admitted to the master's program in speech pathology and audiology, history (archives and records management) or environmental science (environmental toxicology) are charged the Washington resident tuition fee. Contact the Graduate Office for further details.

The purpose of graduate study at WWU is to provide students with quality graduate offerings, accompanied by opportunities for research and professional development. Graduate programs are intended to prepare able students for career advancement and further study. The programs provide service to the state and

its major divisions, to the business and commercial sector, and to a number of professions. WWU is on a quarter calendar system.

Several of WWU's graduate programs offer courses or program elements at locations outside Bellingham, mainly in the Puget Sound region. The summer session on WWU's campus includes a number of special arrangements for graduate study: intensive study during a limited period of time, instructional and research seminars, professional seminars, and courses offered by visiting faculty. The University's Summer Bulletin lists these special arrangements.

Graduate assistantships are available in limited number in nearly all graduate programs. Graduate assistants must meet or exceed all criteria for maintaining graduate status and make satisfactory progress towards the degree.

These assistantships are competitive. Duties vary according to the department and program, the needs of the program faculty, and the student's graduate plan of study. A full-time assistantship does not allow for additional salary or employment from the University. Information about assistantships can be obtained from the Graduate School. Graduate students also are eligible for several types of financial aid; information can be obtained from the University's Office of Student Financial Resources.

Persons who plan to enter graduate study at WWU should read the graduate section of this catalog closely before applying for admission to graduate study or enrolling in any course intended to count toward a master's degree or advanced certificate of study. Students working toward a continuing teaching certifi-

cate should contact the Certification Office in the Woodring College of Education. Additionally, students should consult with the appropriate program adviser and the Graduate Office.

If you have questions not answered here, write to the Dean of the Graduate School, Western Washington University, Bellingham, WA 98225-9037.

ADMISSION

Admission is granted by the Graduate School of Western Washington University with the concurrence of the department or program unit in which the student will pursue graduate study. The Graduate Office informs applicants of the decision made on their applications. Application forms and other admission materials are available upon request to the Graduate School. An application fee is charged for each set of admission materials submitted by applicants, whether initial application or request to transfer into another WWU graduate program. Admission to the Graduate School is limited to a single program.

NOTE: The requirements and procedures listed below demand lead time. Applicants are urged to submit all necessary materials as early as possible before the beginning of the term for which admission is requested—at least two to four months prior to the start of the term. (Some departments have earlier, specific deadline dates.) Faculty review of application materials is unlikely during periods that the University is not in session.

General Requirements

Full Admission

- A baccalaureate degree from an accredited U.S. college or university, or an equivalent degree from a foreign university. The degree must be appropriate to the master's study intended.
- A 3.00 undergraduate grade point average (on a 4.00 scale) in the last 90-quarter or 60-semester hours of study. (See later section on provisional admission for certain exceptions.)
- Three letters of reference from professors in the applicant's undergraduate major field, or from professors of post-baccalaureate courses, or from others able to make an appropriate assessment of the applicant's academic or professional competence. (Forms available from Graduate School.)
- Graduate Record Examination (GRE) scores, which must be received by the Graduate School prior to an admission decision. MBA applicants must provide the GMAT score with their application (but not the GRE). Since registration for the GRE/GMAT must be made in advance, and it takes at least six weeks for resulting scores to reach the Graduate Office, applicants are advised to start planning for the GRE/GMAT at an early date, four to six months prior to the start of the quarter they wish to begin their program.
- Favorable review and recommendation of applications by the graduate faculty in the program to which application is made.

Special Requirements

Certain programs have additional requirements or procedures; see the program descriptions. Students who are not native speakers of English must demonstrate competence in written and spoken English. This can be done by a satisfactory score of at least 535 (minimum 50 on each subsection) on the TOEFL examination or by other means of validation. (Write the Graduate Office for details.)

Foreign students must file with the Graduate Office a satisfactory statement of financial responsibility and of

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sponsorship. Current expenses for a full year's residence study are approximately \$14,000. Complete application materials should be received from foreign students at least three to six months before the term in which graduate study is expected to begin.

Provisional Admission

At times, students who do not meet all the requirements for full admission can be granted provisional admission. For provisional admission to be granted, there must be strong reasons for waiving general admission requirements. And there must be a statement of support for provisional admission from the faculty of the applicant's intended graduate program. If provisional admission is authorized by the Graduate School, the provisions are stated in the letter that offers the student special admission to graduate study. No K (incomplete) grades are allowed until provisional status is removed.

PROGRAM REQUIREMENTS

Graduate programs at WWU require at minimum 45 or 48 quarter credit hours (45 with thesis, 48 without thesis). This minimum requirement, the basic program, must contain at least 35 or 38 credits of approved 500- or 600-level courses. A maximum of 10 credits of 400-level coursework can be applied to the basic program (45 or 48 credits) if the 400-level courses are approved by the appropriate graduate adviser and if they are contained on the "Plan of Study" filed by the student. It is further recommended that no more than 10 credits of independent study be applied toward the degree.

Many programs require more than 45 or 48 credits for the basic requirement. Also, certain undergraduate deficiencies may add additional credit requirements to a particular "Plan of Study." (See later discussion of "Plan of Study.")

RESIDENCE

To earn a master's degree at WWU (except for one option under the MBA and the M.Ed. degrees offered at approved Center for Regional Services centers off campus), the student must complete at least one quarter of residence on campus during which at least 10 credits are earned.

TIME LIMITS

Course work taken more than five years before the awarding of the degree does not count toward the degree. All program requirements, including the thesis or comprehensive examinations, must be completed within this five-year limitation.

ACADEMIC LOAD

For full-time graduate students, 16 credits in a single term is the maximum allowed.

The Graduate School defines full-time enrollment as 8 or more credits per quarter. **However, for purposes of certain kinds of financial aid, the definition is 10 credits because of state or other regulations.** Graduate assistants are governed by other regulations and should request a special information sheet from the Graduate office. Full-time graduate assistants must enroll for a minimum of 8 credits.

Note also the earlier stipulation under "Residence," which requires all master's candidates to complete at least one full-time quarter of 10 or more credits in residence.

TRANSFER, EXTENSION, CORRESPONDENCE, WORKSHOPS

Transfer credit into the graduate program is limited to 9 quarter credits, must meet stated program requirements and be approved by the program adviser and the Graduate

School (forms available from the Graduate School). Such credit should be approved in advance to prevent any misunderstanding or false expectations.

Only certain University Extended Programs' courses from WWU can be applied toward a WWU master's degree. Such courses must meet the requirements and conditions expected of regular, approved graduate courses offered by the University. Approval of the courses must be obtained from the program adviser and the Graduate School (properly signed off on the student's Plan of Study).

No credit is given for correspondence courses.

Courses offered as workshops or in a shortened time frame often do not qualify for graduate credit toward a degree, even though the offerings bear a regular course number. Students should check with the Graduate Office or the program adviser before enrolling if graduate credit is of concern.

THESIS AND COMPREHENSIVE EXAMINATIONS

All master's programs require either a thesis, field project or a comprehensive examination. (Check the program descriptions that appear later in this catalog.) The Graduate Office certifies thesis committees upon request of the department chairperson or the program adviser. Minimally, the committee has three members; the chair must be from the student's major department. Guidelines for the thesis and field project are available from the Graduate Office. Joint manuscripts are not permitted. Only an individually authored manuscript will meet the thesis or field project requirements. Departments that require the thesis customarily have information sheets available.

A minimum of three bound copies of the thesis or field project is required, two for the Graduate School and one for the committee chair.

Most departments require that a student be advanced to candidacy prior to registration for thesis or field project. A card listing the thesis/field project committee and the topic under investigation should also be on file in the Graduate Office.

Comprehensive examinations vary among programs. The Graduate Office and the departments have information available about these examinations.

The comprehensive examination should be scheduled for the final quarter of the student's enrollment. It may be deferred until all course work has been completed upon request by the student and agreement by the graduate adviser. Comprehensive examinations, if failed, may be repeated once, but only if the graduate faculty of the particular program endorses the student's request to repeat the examination.

PLAN OF STUDY

The student and the program adviser together develop a "Plan of Study." This plan is signed by the adviser, the student and the graduate dean. Then it is filed in the Graduate Office, with copies to the student and the adviser. The plan should be completed before or during the student's first quarter of study at WWU. This is very important and should be attended to with dispatch. Amendments to the plan are made upon the request of the graduate program adviser and with the agreement of the Graduate Office. Amendment forms are available from the Graduate Office.

GRADES, GRADING, RETENTION

A maximum of 10 credits of C is allowed toward completion of the

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basic program (45 or 48 credits). More than 10 credits of C or lower grades removes a student from the master's program. (No graduate credit is allowed for D+ or lower grades.) There are certain courses that must be passed with a grade of B or better; program descriptions note such courses. A grade of C or lower counts toward the 10 credit maximum, even if the course is repeated and a B or A is earned. Pass/Fail grades are not applicable toward a graduate degree, and S grades are not computed in the GPA. If a course is not completed, the K grade is assigned. If, after a calendar year, the course requirements have not been met, the K grade lapses to a Z. Such Z grades are computed as failing grades in a student's grade point average and may affect retention in the master's program. Exceptions to the K grade rule are K grades which are received for thesis courses. In these cases, the K grades are allowed to stand until the thesis is completed, whereupon the grade is changed to the earned grade.

To remain a candidate for the degree,

a student must maintain at least a 3.00 GPA in the core program (45 or 48 credits). The GPA is calculated on letter grades earned (on record) at the time grades are posted, i.e., K grades are not considered. A student also must be making satisfactory progress in the graduate program to which he or she has been admitted.

SPECIAL REQUIREMENTS

Program descriptions in this catalog provide information about special requirements: statistics competency, language competency, sequence of particular courses, and so on. Most graduate programs provide information sheets about such special requirements; the student should request this information from the program adviser.

DEGREE CANDIDACY — AWARDING OF THE MASTER'S DEGREE

Advancement to degree candidacy is



formal recognition that the student has completed all admission requirements and has demonstrated satisfactory performance in at least 12 credits of graduate study. Advancement to candidacy is a prerequisite to earning the master's degree and should be accomplished as early as the student is eligible. Advancement is granted by the Graduate Office upon the recom-

mendation of the student's program adviser.

The master's degree is earned at the end of the quarter in which the student completes all degree requirements. Recommendation for the degree is made to the Graduate Council by the student's adviser or thesis chairperson. Application for the degree must be made no later

Summary of Procedures for the Master's Degree

<i>Procedure</i>	<i>Responsibility of</i>	<i>Where Initiated</i>	<i>When</i>
Application and Supporting Materials	Student	Graduate Office	Generally two to four months before term begins. Some programs require earlier due dates. Contact the Graduate School or department for information.
Registration	Student, Adviser, Graduate Office	Graduate Office	See the calendar in the front of this catalog.
Plan of Study	Student, Adviser, Graduate Office	Department	See preceding discussion of "Plan of Study."
Advancement to Candidacy	Adviser, Student	Department, then Graduate Office	See preceding discussion of "Degree Candidacy."
Approval of Thesis or Field Project Committee and Problem	Student, Adviser, Department, Graduate Dean	Department	When thesis or field project is required, following advancement to candidacy, and prior to registration for 690a/b.
Submission of Thesis or Field Project	Student	Department, then Graduate Office	At least four weeks before graduation. Obtain instructions from Graduate Office.
Comprehensive Exams	Student	Department, Graduate Office	Apply at beginning of quarter in which comps will be taken.
Application for Degree	Student	Graduate Office	See preceding discussion of "Awarding of the Master's Degree."

Graduate School

than the end of the second week of the quarter in which the student wishes the degree officially recorded. A student must be enrolled for at least two credits during the quarter in which the program is completed or during the preceding (calendar) quarter. A commencement ceremony is held at the end of each quarter.

TEACHER CERTIFICATION

The School of Education, not the Graduate School, deals with the certification of K-12 teachers. For information, contact the Teacher Admission and Advisement Office in Miller Hall 206E.

UNDERGRADUATE ENROLLMENT IN 500-LEVEL COURSES

Undergraduates at WWU who are in their senior year and have at least a 3.00 grade point average can take a single graduate course during any quarter, but under certain provisions. There must not be an appropriate undergraduate course in their field that is equally available; permission must be obtained in advance from the graduate program adviser of the department offering the graduate course; and the Graduate Office must approve the enrollment. A senior who later enters a master's program at WWU may under certain conditions count one such graduate course toward a master's program.

NOTE: Undergraduate students can not enroll in 600-level courses.

THE GRADUATE COUNCIL

The Graduate Council is assigned responsibility within the University for graduate policy and procedures. The Council reviews all course proposals and conducts periodic reviews of graduate programs. The Council also hears and decides on requests for exceptions from standing policies and procedures that regulate graduate study.

LIST OF PROGRAMS AND ADVISERS

Anthropology (MA)
Dr. Robert C. Marshall
Art (MEd)
Dr. David Templeton
Biology (MS)
Dr. Herbert A. Brown
Business Administration (MBA)
Dr. Robert Meier
Chemistry (MS)
Dr. Gerry A. Prody
Computer Science (MS)
Dr. Gary Eerkes
Education (Administration and Foundations) (MEd)
Adult — Dr. John Utendale
School Administration — Dr. Paul Ford
Learning Resources — Dr. Les Blackwell
Student Personnel — Dr. John Utendale
Education (Curriculum and Instruction) (MEd)
Elementary — Dr. H. O. Beldin
Exceptional Childrer — Dr. Sheila Fox
Secondary — Dr. Alcen Nickelson
Reading — Dr. H. O. Beldin
English (MA) — Dr. Marjorie Donker
Environmental Science (MS)
— Huxley College
Chair, Graduate Program Committee
Foreign Languages (MEd)
Dr. Rudolf Weiss
Geography (MS)
Dr. Debnath Mookherjee
Geology (MS)
Dr. Christopher Suzek
History (MA)
Dr. James Rhoads
Marine and Estuarine Science (MS)
Dr. Stephen Sulkin
Mathematics (MS)
Dr. John Reay
Music (MMus)
Dr. Ed Rutschman
Physical Education (MEd)
Dr. Kathleen Knutzer
Political Science (MA)
Dr. Donald Alper
Psychology (MS)
Dr. Fred Grote
School Counselor (MEd)
Dr. Arleen Lewis
Science Education (MEd)
Dr. John Miller
Sociology (MA)
Dr. James Inverarity
Speech Pathology and Audiology (MA)
Dr. Lina Zeine
Technology (MEd)

Dr. Robert Raudebaugh
Theatre (MA)
Prof. Thomas E. Ward

Anthropology

College of Arts and Sciences

GRADUATE FACULTY

- Boxberger, Daniel L., PhD, ethnohistory, maritime anthropology, economic development and social change, North American Indians, Northwest coast.
- Campbell, Sarah, PhD, world prehistory, Pacific Northwest, theory and methods.
- Hammond, Joyce D., PhD, gender studies, visual anthropology, expressive culture, Pacific.
- Kimball, Linda A., PhD, Southeast and Island Asia, anthropological linguistics, archaeoastronomy, Central Asia, Pacific.
- Loucky, James, PhD, applied anthropology, socialization, immigration, cross-cultural education, Latin America.
- Marshall, Robert C., PhD, political economy, symbolism, Marxist anthropology, East Asia, Japan.
- Stevenson, Joan, PhD, anthropological genetics, human osteology, medical anthropology.

M.A. — ANTHROPOLOGY, THESIS ONLY

Program Adviser:

Dr. Robert C. Marshall
Arntzen Hall 315

Prerequisites

Undergraduate major in anthropology or equivalent in social sciences, or departmental permission; candidates with insufficient backgrounds in anthropological history, or in theory and methods, will be expected to take undergraduate courses as deemed necessary by the Anthropology Graduate Committee.

Basic Requirements

Anth 501	[5]
Anth 502	[5]
Anth 503	[5]

At least one upper-division or graduate course in each of the four major fields of anthropology [12-20]
Anth 690 [3-12]

NOTE: Three credits of 690 are required. Not more than 12 credits of 690 will apply toward the 45-credit requirement for the degree.

Specific Entrance and Test Requirements

A 500-word essay stating reasons for wanting to do graduate work in anthropology, and indicating major interests within anthropology. The General Test of the Graduate Record Examination. Both the essay and the GRE are required for admission.

Electives in Specialization

Courses selected under advisement from 400- or 500-level courses in anthropology, at least 35 credits must be from courses open only to graduate students. (Only 10 credit hours are allowed from 400-level courses.)

Supporting Courses

Where appropriate to the student's specialty interests, the candidate may elect up to 15 credits from a related discipline, under Anthropology Graduate Committee advisement. [0-15]

Special Skills Competency

Competency in a special skill must be acquired through one of the following options:

1. Reading or speaking knowledge of a foreign language, demonstrated by: (a) successful completion of a second-year university language course sequence, or (b) completing an accepted course designed to provide a reading knowledge of the language, or (c) passing a foreign language competency test. *Note: Foreign students whose native language is not English are considered to have already fulfilled the foreign language special skills competency.*
2. A series of courses in linguistics in addition to Anth 540.
3. Computer science/statistics competency, preferably one of the following options: two courses from the Soc 505, 510, 515 sequence or Soc 210 and 215 plus one course from either Soc 372, 410 or 415.
4. In special cases where unique skills are needed, a coherent series of courses may be taken

Graduate School

which lead to a specific skill. This option requires written permission from both the student's adviser and from the Anthropology Graduate Committee.

Advancement to candidacy is granted upon successful completion of:

- (a) Anth 501
- (b) Anth 502
- (c) Anth 503
- (d) One course in each of the sub-fields of anthropology, which in the area of physical anthropology shall be chosen from either Anthropology 520 or 525.
- (e) Special Skills Competency
- (f) Participation in the instruction of an introductory anthropology course where appropriate.

Art

College of Fine and Performing Arts

M.Ed. — THESIS AND NON-THESIS

Program Adviser:

Dr. David E. Templeton
Fine Arts Building 116

GRADUATE FACULTY

Gleeson, Madge, MFA, MAT, graphic design.
Hanson, Lawrence, MFA, sculpture
Janson, Carol L., PhD, art history.
Jensen, Robert A., MFA, drawing and painting
Johnston, Thomas A., MFA, printmaking.
Marsh, David F., MS, drawing and painting.
McCormick, Patrick F., MFA, ceramics.
McIntyre, Mary A., MFA, fabric and fibers.
Schlotterback, Thomas, PhD, art history.
Smeins, Linda E., MA, PhD, art history.
Templeton, David E., PhD, art education.
Urso, Robert, MA, computer graphics.
Vike, Gene, MS, drawing and painting
Weiner, Homer, MFA, drawing and painting.

Prerequisites

An undergraduate major or a balanced program of at least 50 credits in art.

The applicant is requested to submit:

- a. A 300- to 500-word statement of purpose indicating why he or she wishes to pursue graduate work. This statement should be sent to the Graduate School.
- b. A selected portfolio of art works (and/or color transparencies and color photos). The portfolio should be sent to Dr. David E. Templeton, Department of Art, WWU. If the applicant plans to have art works returned by mail, be sure the size will be within the limits prescribed by the postal department.

Specific Test Requirements
Graduate Record Examination —
General Test

Basic Requirements

EdAF 501, 512, 513 [I and II:12]
Art 582 [I and II:4]
Art 690a or 690b [I:1-6]

Other Requirements

Art History 501 (3), one course in history of art (3), and two studio courses (3 each) each in a different medium.
[I and II:12]

Electives in Specialization

Under advisement, students will develop an area of specialization. The fields from which to choose are broad: art education, art history, studio, education, arts education, psychology and philosophy, to name a few. The area must be determined by the end of the second quarter of course work.

[I:11-16; II:20]

Biology

College of Arts and Sciences

GRADUATE FACULTY

Brown, Herbert A., PhD, vertebrate zoology.
Fonda, Richard W., PhD, plant ecology.
Kohn, Hubertus, PhD, plant physiology.
Kraft, Gerald F., PhD, aquatic entomology.
Mason, David T., PhD, limnology.
Matthews, Robin, PhD, stream ecology and watershed management

McLaughlin, Pat, PhD, marine invertebrate systematics.
Muller-Parker, Giselle, PhD, marine phytoplankton ecology.
Nickelson, Alden L., PhD, science education.
Parakh, Jai S., PhD, science education.
Peele, Emily, PhD, marine microbial ecology.
Rifley, Meribeth M., PhD, ornithology.
Ross, June R. P., PhD, DSc, evolution and ecology of marine organisms.
Schneider, David E., PhD, physiological marine ecology.
Senger, Clyde M., PhD, mammalogy.
Slesnick, Irwin L., PhD, science education.
Sulkin, Stephen D., Ph.D., invertebrate larval biology.
Summers, William C., PhD, marine ecology
Taylor, Ronald J., PhD, systematic botany.
Trent, Carol, PhD, molecular and developmental genetics.
Webber, Herbert H., PhD, applied marine invertebrate ecology.
Williams, Don C., PhD, cellular and molecular biology.
Yu, Ming-Ho, PhD, environmental biochemistry.

APPLICATIONS

Applications for summer or fall quarter will be acted upon during the first week of the spring quarter by the Biology Department. Applications and supporting materials must be received by the Graduate Office by March 15 to be considered for a teaching assistantship. Students applying after the first week of spring quarter may jeopardize their chances of an opening. Applications made during summer usually do not allow sufficient review time to meet fall admission deadlines.

FOREIGN LANGUAGE, STATISTICS-COMPUTER PROGRAMMING PROFICIENCY

A student must show proficiency in either one foreign language or in statistics-computer programming before he or she is advanced to candidacy. The choice must be approved by the Advisory Committee. Proficiency may be demonstrated by:

1. A reading knowledge of an appropriate foreign language.
2. Passing Biol 340 with a grade of

A or B and Computer Science 110 or 210 with a grade of A or B.

THESIS AND EXAMINATION

Degree candidates will submit a thesis based on independent and original research on a problem approved by the Advisory Committee. A final oral examination will be conducted by the Advisory Committee. Degree candidates will present a seminar based on the results of the thesis research at a regular department seminar. No credit hours will be given for the seminar.

M.Ed. — NATURAL SCIENCE

*Biology Specialization,
Thesis and Non-Thesis*

Program Adviser:

Dr. Herbert A. Brown
Haggard Hall 351

Prerequisites

An applicant is expected to have completed the equivalent of an undergraduate major in biology including at least one course in organic chemistry. The student also must have had Science Ed 383 and 492 (or the equivalents). Any deficiencies in these requirements must be made up outside the credit hour requirements for the Master of Education degree.

For curriculum requirements see "Natural Science" section.

M.S. — BIOLOGY, THESIS ONLY

Program Adviser:

Dr. Herbert A. Brown
Haggard Hall 351

Prerequisites

A bachelor's degree. Deficiencies in under-graduate courses or those subsequently revealed to the Advi-

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sory Committee must be removed. Applicants are directed to the current requirements of the basic B.S. degree with a major in biology for a summary of expected preparation for graduate work.

Specific Test Requirements
Graduate Record Examination, General and Subject in Biology

Requirements in Specialization
Thesis research (Biol 690) [12 cr]
Graduate courses in biology, selected under advisement and approved by Advisory Committee [11 cr]

Electives
Courses selected under advisement and approved by Advisory Committee from 400- and 500-level courses in biology and supporting disciplines. No more than 10 credits may come from 400-level courses. [22 cr]

Cooperative Environmental Biology Offering
The Department of Biology and Huxley College of Environmental Studies administer a cooperative graduate program offering in environmental biology leading to an M.S. degree in biology. This option focuses on the understanding and potential solution of environmental problems.

M.S. — BIOLOGY: MARINE AND ESTUARINE SCIENCE OPTION, THESIS ONLY

Program Coordinator:
Dr. Stephen D. Sulkin
Shannon Point Marine Center

Prerequisites

Students matriculated through the Biology Department must meet the prerequisite for admission described in the Biology, Thesis Only option.

For full consideration, completed applications should be received by March 1. Applications should include a statement of interest and the identification of potential faculty supervi-

sors. For a complete list of participating faculty and their research interests, and for additional information, write to Dr. Stephen Sulkin, Director, Shannon Point Marine Center, Anacortes, WA 98221.

The Marine and Estuarine Science option is a joint offering of the Department of Biology, Huxley College and the Shannon Point Marine Center. The curriculum is designed to provide focus on local coastal marine environments and biota. It requires a minimum of 45 credits of course work, including 12 credits of thesis research, and the completion of a thesis based on original research in an area of specialization relevant to the marine sciences. Students are expected to show proficiency in two topics before advancement to candidacy: (1) an understanding of regional marine and estuarine environments, biota, and topical management issues, and (2) an understanding of fundamental biological and chemical oceanographic processes.

Business & Economics

College of Business and Economics

GRADUATE FACULTY

Benson, Earl D., PhD, finance.
Bryce, Wendy J., PhD, marketing.
Fewings, David R., PhD, finance.
Garcia, Joseph E., PhD, organizational behavior.
Hagen, Daniel A., PhD, international/labor economics.
Hall, Pamela L., ABD, finance.
Hansen, Julia L., PhD, urban/labor economics.
Harder, K. Peter, PhD, economic history.
Haug, Peter, PhD, operations management.
Henson, Steven E., PhD, microeconomics, applied economics.
Hung, Ken, PhD, business statistics/quantitative methods.
Hutton, Marguerite R., PhD, taxation.
Keleman, Kenneth S., PhD, organizational behavior/personnel.
Kelley, Patricia C., PhD, business, government, society.
Lewis, L. Floyd, PhD, management information systems.
Lockhart, Julie A., MS/CPA, managerial accounting.

Meier, Robert C., PhD, business policy.
 Merrifield, David E., PhD, microeconomics/
 industrial analysis.
 Moore, John S., PhD, business policy.
 Murphy, Dennis R., PhD, managerial economics/
 international finance.
 Nelson, David M., PhD, macroeconomic theory/
 money markets.
 Olney, Thomas J., PhD, marketing.
 Owens, Eugene, PhD, behavioral science/labor
 relations.
 Petersen, Lois E., EdD, management/business
 communications.
 Plumlee, E. Leroy, DBA, business environment.
 Ross, Steven C., PhD, management information
 systems.
 Rystrom, David S., PhD, finance.
 Safavi, Farrokh, DBA, marketing/international
 business.
 Sailors, William M., MS/CPA, auditing theory.
 Savey, Ronald N., MBA/CPA, financial
 accounting.
 Senge, Stephen V., DBA, cost/managerial
 accounting.
 Singleton, William R., PhD, taxation.
 Sleeman, Allan G., PhD, economic theory/quantitative
 methods.
 Spich, Robert S., PhD, international business.
 Springer, Mark, PhD, operations management.
 Warner, Daniel M., JD, business law.
 Weymark, Diana N., PhD, money/macro/international.
 Williams, Terrell G., PhD, marketing.
 Wonder, Bruce D., PhD, human resource
 management.

MASTER OF BUSINESS ADMINISTRATION, NON-THESIS

Program Director:

Dr. Robert C. Meier
 Parks Hall 419

APPLICATIONS AND ADMISSION

A new class is admitted to start the program in June of each year. Some students may be able to have the first summer quarter classes waived and start the program in the fall. The program is offered on either a part-time or full-time basis.

Applicants must have a bachelor's degree; however, that degree need not be in business or a business-related area. Applications are made to the Graduate School and must include an official application form, the results of the Graduate Manage-

ment Admission Test, official transcripts of all previous college-level work and a resume showing work experience. Applicants from non-English speaking areas must include their scores on the Test of English as a Foreign Language (TOEFL). Letters of reference may be submitted or requested.

Preferred consideration is given to applications received by March 15.

See the MBA Program section under the College of Business and Economics in this catalog for more information about the program of study, basic requirements and course listings.

Chemistry

College of Arts and Sciences

GRADUATE FACULTY

Bussell, Mark E., PhD, physical chemistry.
 Crook, Joseph R., PhD, inorganic chemistry.
 Gerhold, George A., PhD, physical chemistry.
 King, Donald M., PhD, analytical chemistry.
 Kriz, George S., PhD, organic chemistry.
 Lampman, Gary M., PhD, organic chemistry.
 Miller, John A., PhD, science education/organic
 chemistry.
 Neuzil, Edward F., PhD, physical chemistry/
 nuclear chemistry.
 Pavia, Donald L., PhD, organic chemistry.
 Prody, Gerry A., PhD, biochemistry.
 Russo, Salvatore F., PhD, biochemistry.
 Weyh, John A., PhD, analytical chemistry.
 Whitmer, John C., PhD, physical chemistry.
 Wicholas, Mark, PhD, inorganic chemistry.
 Wilson, H. William, PhD, physical chemistry.

M.S. — CHEMISTRY, THESIS AND NON-THESIS

Program Adviser:

Dr. Gerry A. Prody
 Haggard Hall 207

Prerequisites

A bachelor's degree and departmental approval. Applicants are expected to have completed the following courses (or their equivalent) with a grade of B or better: Chem 333, Chem 434, Chem 351-3, Chem 461-3, and

Graduate School

Chem 441 or Chem 471-3. A student with lower than B may be required to repeat that course as determined under advisement with the graduate program adviser.

Specific Test Requirements

Graduate Record Examination, General.

Requirements in Specialization

- Thesis option: Chem 595 (2 credits), 690 (12 credits).
- Non-thesis option: Chem 595 (2 credits), 694 (6-12 credits) or 696 (9-12 credits), 501 (6 credits).
- Courses selected under advisement and approved by the Chemistry Graduate Committee from chemistry and supporting disciplines, when appropriate, to total at least 31 credits (thesis option) or 34 credits (non-thesis option).

Electives in Related Areas

Selected under advisement from related fields.

Community College Internship Option for Master of Science Chemistry Students

Students interested in pursuing a career as an educator in a community college can obtain practical experience and training in their desired vocation by participating as a community college intern in conjunction with studies leading to the M.S. degree in chemistry. This option stipulates course work over and above the 45 credits required for the M.S. degree. Two years should be allotted for the completion of degree including intern option.

A student will normally spend one quarter as an intern (in residence) in a selected community college. This will usually occur in the second year of study. It is the purpose of the internship to provide not only an experience in instruction but also an exposure to the community college philosophy.

In addition to the credit requirements for the M.S. degree the following courses are required or recommended:

- 1) Chem 696 (9-12) Internship in Chemistry in the Community College (required)
- 2) Sci Ed 500 (2-5) Special Projects in Science (recommended)

Candidates for the M.S. degree plus intern option should notify the Internship Program adviser as early as possible during the first year of graduate study.

Industrial Internship Option for Master of Science Chemistry Students

Students interested in pursuing a career in industry can obtain practical experience by participating in the industrial internship program as part of their M.S. curriculum. Normally, students choosing this option will earn a master's degree via the non-thesis option. However, in those instances where the research problem undertaken in the industrial setting can be coordinated with on-campus research, the student may exercise the thesis option, with approval of the graduate adviser.

A student will normally spend one or two quarters as an intern with a company which has been selected in advance. This internship will normally take place during the second year of graduate study. Students interested in an industrial internship should notify the program adviser as early as possible during the first year of graduate study. The department cannot guarantee that an internship opening will be available for all interested students.

In addition to the internship, students exercising this option will be expected to submit a comprehensive report, according to an approved format, describing the work accomplished during the internship. A seminar describing the work will also

be expected. Additionally, the student will be expected to pursue a limited research problem on campus. This research problem will normally require the equivalent of one quarter's work, although it may be extended over more than one quarter.

HUXLEY-CHEMISTRY DEPARTMENT COOPERATIVE PROGRAM

The Huxley-Chemistry Department Cooperative Program is a joint program specializing in environmental chemistry. It is administered by both units and leads to an M.S. in Chemistry (Environmental Chemistry) or an M.S. in Environmental Science (Environmental Chemistry). Applicants must indicate which department they wish to be based in. The program emphasis is on the application of chemical principles, methods, and concepts to the understanding and potential solution of certain environmental problems. Students are admitted to the cooperative program through acceptance by the Graduate School and by the environmental chemistry cooperative program coordinators (the chair of the Huxley College Graduate Program Committee and the graduate program adviser of the Chemistry Department). See Huxley College description of the M.S.-Environmental Science (Environmental Chemistry) program.

M.Ed. — NATURAL SCIENCE

Chemistry Specialization, Thesis and Non-Thesis

Program Adviser: Dr. John A. Miller
Haggard Hall 207

Prerequisites

Completion of an undergraduate teacher education major in chemistry. An evaluation of the undergradu-

ate record will determine any deficiencies which must be made up outside the credit requirements for the Master of Education program.

For curriculum requirements see "Natural Science" within Graduate School section on following pages.

Computer Science

College of Arts and Sciences

GRADUATE FACULTY

Eerkes, Gary L., Ph.D.
Bellegarde, Françoise, Ph.D.
Hearne, James W., Ph.D.
Ives, Fred M., Ph.D.
Johnson, James Lee, Ph.D.
Jusak, Debra S., Ph.D.
Matthews, Geoffrey B., Ph.D.
Menninga, Larry D., Ph.D.
Nelson, Philip A., Ph.D.
Osborne, Martin L., Ph.D.
Ural, Saim, Ph.D.
Van Den Bosch, Peter N., Ph.D.

M.S. — COMPUTER SCIENCE, THESIS AND NON-THESIS

Program Adviser:

Dr. Gary L. Eerkes
Bond Hall 302

Students entering the program should have an undergraduate degree in computer science or a closely related field. In particular, the entering student should have completed the equivalent of Math 124, 125, 204, 224, Math-CS 207, 208, CS 210, 310, 331 and 332. Please refer to the Mathematics and Computer Science sections of this catalog for descriptions of these courses.

Admission to graduate study does not guarantee admission to all graduate courses offered in computer science; it may be necessary for students to take certain prerequisite courses (see Computer Science section of this catalog for details). Sub-

Graduate School

ject to approval of the graduate adviser, a maximum of 10 credit hours of 400-level undergraduate work may be applied toward the M.S. degree.

Specific Test Requirements

Graduate Record Examination, General Test.

Common Core

Both degree options require seven core courses (28 credits) distributed over four core areas. These seven courses must be selected to include at least one 500-level course in each area and at least two courses in three of the areas.

Core Areas

- (1) Theory of Computations: CS 401, 405, 501, 505
- (2) Software: CS 410, 450, 460, 520, 525, 530, 532, 535, 538
- (3) Hardware and Computer Systems Organization: CS 420, 550, 555, 560, 561, 565
- (4) Computing Methodologies: CS 402, 430, 439, 480, 570, 573, 578, 580, 585

Program Requirements

Thesis Option —	
Common Core	[I:28]
Electives	[I:10]
Thesis	[I:12]
Total	[I:50]
Non-Thesis Option —	
Common Core	[II:28]
Electives	[II:14]
Project	[II:8]
Total	[II:50]

A student's M.S. program will be tailored according to the general requirements and the student's background and career intentions. Please refer to the Computer Science portion of this catalog for descriptions of specific courses. Inquiries about the M.S. in computer science should be addressed to the Computer Science Department. Admission to the program is through the WWU Graduate School.

Education

Woodring College of Education

Courses in the Woodring College of Education's graduate programs which are offered by either the Department of Educational Curriculum and Instruction or the Department of Educational Administration and Foundations are designated according to the department from which each originates.

Curriculum and Instruction courses are designated EdCI.

Administration and Foundations courses are designated EdAF.

COMMON REQUIREMENTS

Admission

Students' applications are first reviewed by the Graduate School before consideration for admission to a specific program.

Computer Competency

Students admitted to programs in the Woodring College of Education are required to possess minimum computers-in-education competence prior to completion of their program and, when applicable, prior to being recommended for certification. Procedures for demonstrating or developing competence are available in Miller Hall 218.

On-Campus Study

Graduate programs require a minimum of one quarter of full-time resident study consisting of a minimum of 10 credits. This requirement may be met either during a summer session on campus or during any quarter of the regular school year.

Second Master's Degree

Enrollment must be for a single M.Ed. program. Students who have earned an M.Ed. may apply for admission to

another M.Ed. program but all requirements of the second program must be met (with possible allowance for some course work taken in the first program).

EdAF 501 as Initial Course

All education graduate study programs require Ed AF 501 as an initial course. EdAF 501 must be taken before either 512 or 513 and within the first 15 credits of the master's program. A grade of A or B must be earned in EdAF 501 for the student to continue in the program. The course may be repeated once for improved grade but only with the permission of the chair of the appropriate Woodring College of Education department and upon the advice of departmental faculty. No further credits can be counted toward the M.Ed. until the course has been repeated and an A or B has been earned.

Please note: Due to a review and revision process which may affect Woodring College of Education programs and courses, the information contained in the Education section of this catalog is subject to change.

At the time of printing, a master's concentration in human services administration and a master's in teaching degree program were under consideration. Post-baccalaureate candidates interested in combining teacher certification and master's degree study should contact the Educational Curriculum and Instruction office or the Graduate Office.

Educational Administration & Foundations

Woodring College of Education

GRADUATE FACULTY

Bilings, Thomas, PhD.
Blackwell, Leslie, EdD.
Fennimore, Flora, EdD.

Ford, Paul, EdD.
Grover, Burton L., PhD.
Jongejan, Anthony, PhD.
Kasprisin, Lorraine, PhD.
Kim, Robert H., EdD.
Marrs, Lawrence W., PhD.
Roberts, Franklin, PhD.
Schwartz, Sy, EdD.
Trimble, Joseph E., PhD.
Utendale, John F., EdD.
VanderVeide, Philip B., PhD.
Zurfluh, Linda, EdD.

General Admission Requirements

Students must meet Graduate School requirements before being considered for admission to a specific program. All programs of the department require the Graduate Record Examination, General Test prior to the admissions decision.

M.Ed. — ADULT EDUCATION ADMINISTRATION

Program Adviser:

Faculty, Miller Hall 311
(206) 676-3190

Program Goals

The Adult Education program prepares students for either entry-level or advanced-level competence for administrative work in any institution which sponsors educational programs for adults. In general, these include continuing education departments of colleges and universities, YM/YWCAs, libraries, museums, churches and other voluntary agencies, government agencies, and business and industry.

Students may choose between two areas of study: administration/planning or learning problems of adults.

The curriculum is designed to examine theory as applied to problems in the field. Program design allows for part-time study. All students must complete two field experiences. For working adults, however, their jobs may provide opportunities for these experiences.

Admission

Applications are accepted on the

Graduate School

basis of fulfilling Graduate School admission requirements and establishing that the applicant's professional goals are consistent with the goals of the program.

Completion time for the program is a minimum of one year. Average completion time is three years.

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Basic Requirements

EdAF 501, 512, 513 [I and II: 12]
EdAF 690a or b [I: 6]

Program Requirements

EdAF 518a, 576, 578,
592h and/or j
and/or k [I and II: 11-21]

Electives

Electives will depend upon the students' academic backgrounds, and their needs as related to professional goals. Electives may be drawn from any relevant department on campus and must be taken under advisement [I: 9-19; II: 19-29]

Graduation Requirements

Thesis/field project [II: 48]
Non-thesis/non-field project [II: 52]

M.Ed. — STUDENT PERSONNEL ADMINISTRATION IN HIGHER EDUCATION

Program Adviser:

Dr. John F. Utendale
Miller Hall 314A, (206) 676-2977

Program Goals

This program is designed to prepare professionals for Student Personnel work in higher education. The program emphasizes the development of leadership and managerial skills, as well as theories of human and organization development.

The generic skill building, theoretical concepts, research activities and experiential opportunities provided

by the program could be applied to a broad array of leadership and/or helping relationship roles.

The program requires an in-depth internship and a thesis research project. Some flexibility for program completion exists.

Admission

Graduate School admission plus a bachelor's degree and experience in student personnel or related human services work are required. Criteria include appropriate academic background and achievement, evidence of interpersonal communication skills, and commitment to a process of self-awareness and personal/professional development. Each program cycle begins with summer quarter enrollment. Requirements include:

- (a) Application deadline — February 15.
- (b) Personal resume.
- (c) Statement of purpose.
- (d) Personal interview with admissions committee (first week of March).
- (e) Elementary computer competence.
- (f) Previous teaching experience is not required.

Specific Test Requirements

Graduate Record Examination, General Test, prior to admission decision.

Basic Requirements

EdAF 501, 512, 513 [I and II:12]

Requirements in Specialization

Core courses — EdAF 555, 556, 557a, 557b, 557c, 558 [I and II:22]

Research — EdAF 559 [II:3], EdAF 690a or b [I:6]

Internship — EdAF 592f [I and II:14]

Electives to be selected under advisement [I:0, II:3]

Graduation Requirements

Thesis/field project [I:54]
Non-thesis/non-field project [II:54]
plus comprehensive examinations.

M.Ed. — SCHOOL ADMINISTRATION

Elementary, Secondary, Learning Resources

Program Advisers

On-campus:

Dr. Paul Ford, Miller Hall 204C,
(206) 647-4883

Program Manager:

Judy Gramm, Miller Hall 204A,
(206) 676-3708

Seattle Center:

Dr. Linda Zurfluh, (206) 464-6103

Learning Resources:

Dr. Les Blackwell, Miller Hall 204B,
(206) 676-3387

Dr. Tony Jongejan, Miller Hall
204D, (206) 676-3381

Program Goals

The School Administration program is designed to prepare elementary and secondary school teachers to assume leadership roles as principals, vice principals or learning resource specialists. Candidates are recommended for the master's degree and/or principal certification.

Admission

- Course background appropriate to level of specialization.
- Two years of successful teaching for administrator candidates.
- Application for admission to Graduate School.
- Letters of recommendation from sponsoring district.
- Official transcript(s) showing all previous course work.
- Writing sample (two-page or 500-word essay titled "Why I Want to be an Administrator").
- An interview with a program adviser may be required.

Specific Test Requirements

Graduate Record Examination, General Test prior to admission decision.

Options

Consistent references will be made in this section to Options I, II and III. Option I is a minimum of 49 credits, including EdAF 690a (thesis) or 690b

(field project). Option II is a minimum of 52 credits followed by comprehensive tests in the Foundations area and in the specialization. Option III is a minimum of 54 credits of course work, including six (6) credits of EdAF 542a,b,c,d and the comprehensive tests in Foundations.

Credit requirements in the three options will be indicated by a Roman numeral designation for the program option followed by the required number of credits. For example: I:6 means six credits are required in the Option I alternative.

Basic Requirements

EdAF 501, 512, 513 [I, II and III:12]

Requirements in Specialization

EdAF 541a, 543a,

544c [I, II and III:12]

EdAF 542a,b,c,d [III:6]

EdAF 690a or b [I:6]

Electives in Specialization

Emphasis in specialized field(s): law, negotiations, finance, personnel, systems management, administration of learning resources and educational computers.

[I: 13-19; II: 22-28; III: 18-24]

Electives in Related Areas

Selections under advisement from supporting disciplines, e.g., political science, economics.

[I, II and III:0-6]

Principal's Initial Certificate

Candidates for the Washington State Initial Principal's Certificate shall have completed at least two consecutive years of certificated teaching experience in one district on at least a half-time basis (the service must cover the entire school year), a valid Washington State teaching certificate, and a master's degree in school administration (program to include approved certification course work). A 12-credit internship is required in addition to the master's degree. Admission to the internship is separate from admission to the master's or certificate program and is based on an individual evaluation of the candidate's preparation and experience.

Graduate School

Individuals who have completed at least two consecutive years of certified teaching experience in one district on at least a half-time basis (the service must cover the entire school year), have a valid Washington State teaching certificate, and have a master's degree in a field other than school administration may become eligible for the initial principal's certificate by completing 40 credits of required course work under advisement and a 12-credit internship. Candidates for the initial certificate must pass an exit examination as prescribed in WAC 180-78-193-194.

Applicants for admission to this program should contact the School Administration Office.

Principal's Standard/Continuing Certificate

For the Washington State Standard/Continuing Principal's Certificate, 12 to 15 credits of course work beyond the requirements for the Provisional/Initial Certificate are required. Transfer credits are not allowed. Coursework must be done under advisement and after proper application has been made to the School Administration Office.

Certificate of Advanced Study (CAS)

A specialized post-master's degree program at the sixth-year level is now offered to a limited number of candidates. A program description is available from the School Administration Office.

Educational Curriculum and Instruction

Woodring College of Education

GRADUATE FACULTY

Atkinson, Charles M., EdD, special education.
Beldin, H. O., PhD, reading.
Dallas, Lee A., EdD, secondary education.
Evans, Howard M., EdD, secondary education.
Fennimore, Flora, EdD, elementary education, library science.

Fox, Sheila L., PhD, special education.
Howell, Kenneth W., PhD, special education.
Klein, Marvin L., PhD, elementary education, language arts.
Krogh, Suzanne L., PhD, early childhood education.
Mork, Theodore A., PhD, elementary education, reading, children's literature.
Nickelson, Alden L., PhD, secondary education, science education.
Pinney, Robert H., EdD, secondary education.
Slentz, Kristine L., PhD, special education.
Towner, John C., PhD, reading, elementary education.

GRADUATE STUDY OPTIONS

Each program area offers the student two options for the master's degree: Option I, thesis or field project, minimum 45 credits; and Option II, comprehensive examination, seminar paper, minimum 43 credits. The elementary, secondary and exceptional children programs offer a specialization for students who do not have either a background in education or teaching experience; this track is referred to as Teaching/Research under Option III.

Students in all programs take three common courses: EdAF 501, 512, 513.

M.Ed. — ELEMENTARY

The Elementary program consists of the systematic, scholarly study of research, theories and practices related to education of children. This degree program is intended for individuals who plan to teach elementary and pre-school children or work in a consultant, supervisory or administrative capacity with adults interested in the education of children.

In addition to the options described below, specializations are available by advisement, e.g., general curriculum and instruction, consultant/supervisor, computer education, middle school education, library science, language arts and science education.

Graduate Program Adviser:

Dr. H. O. Beldin
Miller Hall 251F, (206) 676-3816

Prerequisites

All options: Graduate Record Examination, General. Elementary Options I and II and Early Childhood Option I: undergraduate preparation and teaching experience.

Courses

Option I: Thesis or Field Project
(45 credits)

EdAF 501, 512, 513 [12]

EdCI 521, 533, 535, 690a or b [18-21]

Electives by advisement [12-15]

Option II: Seminar Paper
(48 credits)

EdAF 501, 512, 513 [12]

EdCI 521, 535, 539 [12]

Electives by advisement [24]

Option III: Teaching/Research
(48 credits)

EdAF 501, 512, 513 [12]

EdCI 521, 535, 539, 564, 587, 591

Within the Elementary Education program area there are two master's options with an Early Childhood specialization.

Option I: Thesis or Field Project
(45 credits)

EdAF 501, 512, 513 [12]

EdCI 518b, 531a, 534, 596a or b, 690a or b

Electives by advisement

Option II: Teaching/Research
(48 credits)

EdAF 501, 512, 513 [12]

EdCI 429 or 469, 438, 531, 534, 589, 591

Electives by advisement

M.Ed. — SECONDARY

The Secondary Education graduate program offers four areas of specialization. These are: (a) the high school/middle school track for students holding teaching certificates; (b) the high school/middle school track with teaching certification for students who do not hold a teaching certifi-

cate; (c) the curriculum consultant track for experienced teachers interested in curricular service careers; and (d) the curriculum consultant track with a computer applications focus.

Graduate Program Adviser:

Dr. Alden Nickelson
Miller Hall 306C, (206) 676-3328

Prerequisites

Graduate Record Examination, General Test. Approval of application by program adviser based on academic record and recommendations. Two years' successful teaching experience in grades 7-12 is required for the curriculum specialization and is considered desirable for the high school/middle school program. For the computer applications track, CS 210 or equivalent is required.

High School/Middle School Track

(48 credits)

EdAF 501, 512, 513 [12]

EdCI 481 or 484, 500, 522a, 522b, 523, 555, and 571 [25]

Electives under advisement [11]

HS/MS with Certification Track

(50 credits)

EdAF 501, 512, 513 [12]

EdCI 481 or 484, 500, 522a, 522b, 523, 555, 560 (or equivalent), 571 and 596 [38]

Certification courses: EdCI 471, 471a, 472, 472a, 490a, 495 and Psych 351 (other required certification courses replaced by courses listed above)

Note 1: Both tracks in the high school/middle school program are non-thesis, non-field project only.

Note 2: Candidates in this program should understand that any certification to teach is separate from the awarding of the master's degree. Both may or may not be achieved at the same time. The Certification Officer of the Woodring College of Education determines eligibility for certification; the Graduate School awards the M.Ed.

Note 3: Candidates in this program may be awarded certification prior to

Graduate School

completion of all requirements for the M.Ed. degree. The M.Ed. degree, however, will be awarded *only* upon completion of all requirements for both certification and the M.Ed. degree.

Curriculum Consultant Track

Note: Curriculum Consultant Track is available with thesis or field project option only.

EdAF 501, 512, 513 [12]

EdCI 522a, 522b, 523, and EdAF 543a [16]

EdCI 500 (to be used for research background) and electives under advisement, including content electives [9-12]

EdCI 690a or 690b [6-9]

Consultant with Computer Applications Track

Note: Only a field project option is available in this track.

EdAF 501, 512, 513 [12]

EdCI 522a, 522b, 523, and EdAF 543a [16]

EdAF 518, EdAF 544b, CS 310 and 331, plus advised electives [20-24]

EdCI 690b [9]

M.Ed. — READING

Advisement and course work are available for developing a remedial reading teacher specialization. Option I requires a thesis or field project and 45 credits minimum; Option II requires a seminar paper, comprehensive examination and 48 credits minimum.

Graduate Program Adviser:

Dr. H. O. Beldin
Miller Hall 251F, (206) 676-3816

Prerequisites

Graduate Record Examination, General Test, teaching certification, teaching experience.

Courses

Option I: Thesis or Field Project (45 credits)

EdAF 501, 512, 513

EdCI 484, 584, 536, 589, 594e, 594f, 690a or b

Electives by advisement

Option II: Seminar Paper (48 credits)

EdAF 501, 512, 513

EdCI 484, 584, 586, 589, 594e, 594f, 539

Electives by advisement

General comprehensive examination

M.Ed. — EXCEPTIONAL CHILDREN

There are four specializations in the exceptional children master's degree program. The exceptional children and the consultative teaching specializations are designed for graduate students who already hold a teaching certificate. The teaching/research specialization combines certification and master's degree requirements and is offered to graduate students without a background in education. The early childhood special education specialization may be taken by either certificated or non-certificated students. Students in certification plus M.Ed. programs must successfully complete both a comprehensive examination and a seminar paper.

Graduate Program Adviser:

Dr. Sheila Fox
Miller Hall 318B, (206) 676-3332

Areas of specialization

Exceptional Children Option I or II
Consultative

Teaching Option I or II

Teaching/Research Option II only

Early Childhood

Special Education Option I or II

Prerequisites

Graduate Record Examination, General Test. Some undergraduate certification course work is required in the specializations that combine certification and graduate degree work. Concurrent enrollment in these courses is permitted under advisement.

Exceptional Children Specialization

EdAF 501, 512, 513 [I and II:12]

EdCI 561, 563, 564, 566, 567

and 598a [I and II:21]

Electives under advisement

[I:3-6, II:15]

EdCI 690a or b

[I:6-9]

Consultative Teaching Specialization

EdAF 501, 512, 513 [I and II:12]

EdCI 561, 562, 563, 564, 565, 565a,

566, 567, and 598a [I and II:32]

Electives under advisement [II:4]

EdCI 690a or b [I:6-9]

Teaching/Research Specialization

EdAF 501, 512, 513 [I and II:12]

EdCI 561, 562, 563, 564,

566, 568, 598b [II:37]

Certification requirements: EdCI 310,

320, Psych 316 or 352

Early Childhood Special Education

EdAF 501, 512, 513 [I and II:12]

EdCI 562, 564, 566, 569a, 569b, 569c,

598a (for students who are already

certificated) or 598b (non-certificated

students) [I:26 and II:38]

EdCI 690a or b [I:6-9]

Electives [I:4]

Certification requirements: EdCI 310,

320, Psych 310 or 352

English

College of Arts and Sciences

GRADUATE FACULTY

Barthold, Bonnie, PhD, African & African-American literature, literary theory, studies in the novel.

Brunton, Rosanne, PhD, minority literatures, women's literature, feminist theory and criticism.

Cary, Meredith, PhD, literature.

Castaneda, Omar, MFA, creative writing.

Cobb, Mary, PhD, English education and literature.

Donker, Marjorie, PhD, literature and criticism.

Emmerson, Richard, PhD, literature and criticism.

Inniss, Kenneth, PhD, literary criticism, modern British literature.

Johnson, Ellwood, PhD, American literature.

Keep, W. C., PhD, literature and creative writing.

Larsen, Golden, PhD, literature.

Lewis, Merrill, PhD, literature and criticism.

Lobeck, Anne, PhD, linguistics and literature.

Mason, John B., PhD, American literature, English education and rhetoric.

Muldrow, George, PhD, literature.

Park, Douglas, PhD, literature and rhetoric.

Skinner, Knute, PhD, literature and creative writing.

Smith, William, PhD, rhetoric and literature.

Symes, Ken, PhD, literature, rhetoric and non-fiction.

Wright, Evelyn, PhD, English education.

M.A. — ENGLISH, THESIS AND NON-THESIS

The M.A. program in English offers two specializations: (1) English studies and (2) creative writing.

Specific Test Requirements

Graduate Record Examination, General Test (normally the Department of English expects a verbal score of at least 500 and a strong analytic score); a 750-word statement of background and intention; and, for creative writing applicants, a writing sample (consult the department's graduate adviser).

Prerequisites

Undergraduate major in English or departmental permission. Candidates with an insufficient background in English are normally requested to acquire 30 upper-division credits in literature and criticism with a grade of B or better in each course. The department reserves the right to approve a course of study.

1. English Studies (Thesis and Non-Thesis)

Core Requirements

Eng 501 and 25 credits in literature, criticism, rhetoric or Eng 513. Twenty of these 25 credits must be taken in scheduled courses. Electives: 18 credits (literature, criticism, creative writing, rhetoric, pedagogy, English language) for the non-thesis student; 10 credits from those areas for the thesis student and five credits in Eng 690.

2. Creative Writing (Thesis)

Core Requirements

Eng 501, 20 credits in creative writing (fiction, drama, poetry, non-fiction)

Graduate School

prose) and five credits in Eng 690. Electives: 15 credits in literature, criticism, rhetoric or Eng 513. Ten of these 15 credits must be in scheduled courses.

Credits

Courses are routinely taken at the 500 and 600 levels. With the permission of the graduate adviser a student may count up to a maximum of 10 credits in 400-level courses toward the degree requirements.

Language Requirement

Students in the English Studies option must demonstrate reading competence in a foreign language acceptable to the department's Graduate Studies Committee. Normally this competence is demonstrated through a translation exam or through passing an advanced literature course with the literature in its original language. Students in Creative Writing may either fulfill the foreign language requirement or take five additional credits in literature, criticism or rhetoric. See the graduate director in English for details.

Comprehensive Examination

Students must pass a written comprehensive final examination in their concentration. For details, see the *Graduate Program Guidelines*, a copy of which may be obtained from the director of graduate studies in English.

Other

Requirements for admission to graduate status, advancement to candidacy, advisement and registration, course load and length of program, graduate assistantships and other financial aid, thesis areas and requirements, comprehensive examination reading lists, graduate plan of study, procedural and administrative matters pertaining to the language requirement, the comprehensive examination and graduation may be found in the *Graduate Program Guidelines*.

Foreign Languages

College of Arts and Sciences

GRADUATE FACULTY

French

Robert S. Balas
William Bryant
Vicki Hamblin
Jesse Hiraoka
Louise Kikuchi

German

Henrich Brockhaus
Walter Robinson
Rudolf Weiss

Spanish

Mario A. Cabezas
Shaw N. Gynan
Daniel Rangel-Guerrero
John Underwood

M.Ed. — FOREIGN LANGUAGE EDUCATION, NON-THESIS ONLY (ALL SPECIALIZATIONS)

Specializations: French, German, Spanish

This program for teachers of French, German and Spanish is designed to be completed in three summers. Emphasis is placed upon the application of course work to the teaching of second languages. Where feasible, use is made of the Department of Foreign Languages' multi-media lab facilities.

Admission

In addition to standard requirements for admission to the Graduate School, the candidate must have an undergraduate major in French, German or Spanish and demonstrate target language competency. Admission will be subject to the approval of the departmental Graduate Committee. Students with insufficient background may be required to take such preliminary course work as deemed necessary.

Specific Test Requirements

For admission: Graduate Record Examination (General).

Exit exams: Exam in EdAF; exams in subject area (French/German/Spanish).

Basic Education Requirements: [12]
EdAF 501 (4), 512 (4), 513 (4)

Required Core Courses
(taught in English): [12]
FL 540 (4), 542 (4), 544 (4)

Requirements in Specialization
(French, German, Spanish) [24]

The 24-credit requirement must include course work in each of the four areas in the field of specialization (French, German, Spanish):

FR/GER/SP 501a,b, Language; 510a,b, Applied Linguistics; 520a,b, Culture; 530a,b, Literature

(*Foreign Studies:* Language sections may develop foreign study components as an integral part of the program in partial fulfillment of requirements in the area of specialization.)

Geography & Regional Planning

College of Arts and Sciences

GRADUATE FACULTY

- Buckley, Patrick H., PhD, economic and development geography, quantitative methods.
 Monahan, Robert L., PhD, resource geography, Canadian-American studies (Director, Canadian-American Studies Center).
 Mookherjee, Debnath, PhD, comparative urbanization, regional development and planning.
 Scott, James W., PhD, historical geography of the North American West, history and bibliography of geography (Director, Center for Pacific Northwest Studies).
 Terich, Thomas A., PhD, shoreline processes, urban and regional planning.

Adjunct Faculty

- Berg, Richard H., PhD, PE, remote sensing, quantitative methods.
 Vernon, Manfred C., JD/PhD, environmental law, law of the sea.

M.S. — GEOGRAPHY, THESIS ONLY

Program Adviser:

Dr. Debnath Mookherjee
Arntzen Hall 217

Program Goals

The Department of Geography and Regional Planning offers a program leading to the M.S. degree in geography. The primary objective of this program is to provide a disciplinary foundation with emphasis on regional analysis focusing either on natural resources or regional development. Among the essential components of the program are critical thinking in history and theory of geography, geographic techniques and applied spatial analysis. The program is designed for those students who wish to pursue careers in such diverse fields as business, government, planning, teaching or research/consulting, or for those students who desire to pursue advanced degrees.

Core Requirements

- Geog 501 History and Philosophy of Geography [4]
 Geog 510 Research Techniques [5]
 Geog 521 Seminar in Systematic Geography: Human OR
 522 Seminar in Systematic Geography: Physical [5]
 Geog 551 Research Problem [5]
 Geog 590 Graduate Colloquium [2]
 Geog 690 (Thesis) [6]

Electives in Specialization

To be chosen under advisement [9]

Supporting Courses

Under advisement, normally from either the social sciences or the physical sciences. A minimum of nine credits to be taken. [9]

Specific Test Requirements

Graduate Record Examination, General.

Other Requirements

Demonstrated competence (by course work or by specially administered test, as appropriate) in one or more of the following techniques: statistics, computer science, cartography (including computer cartography), a foreign language.

Geology

College of Arts and Sciences

GRADUATE FACULTY

- Babcock, R. S., PhD, geochemistry, petrology.
Beck, M. E., Jr., PhD, geophysics, paleomagnetism.
Brown, E. H., PhD, metamorphic petrology, geochemistry.
Christman, R. A., PhD, mineralogy, earth science.
Easterbrook, D. J., PhD, geomorphology, glacial geology.
Engelbreton, D. C., PhD, tectonics, paleomagnetism.
Hansen, T.A., PhD, paleontology.
Kelsey, H. M., PhD, hydrology, geomorphology.
Schermer, E. R., PhD, tectonics, structural geology, geochronology.
Schwartz, M. L., PhD, coastal processes, science education.
Suczek, C. A., PhD, stratigraphy, sedimentary petrology, tectonics.
Talbot, J. L., PhD, structural geology, tectonics.
Wodzicki, A., PhD, economic geology, geochemistry.

M.S. — GEOLOGY, THESIS ONLY

Program Adviser:

Dr. Christopher A. Suczek
Environmental Studies Center 240

Prerequisites

Students with a degree in geology, earth sciences or other discipline who meet the requirements of the Graduate School and who show evidence of superior scholarship are invited to apply for admission to the graduate program in geology. All entering students must have a thorough knowledge of physical geology and must have completed, or plan to complete, a recognized geological field camp. They must also have completed, or plan to complete, one year each of math (which may include computer science and statistics), physics and chemistry. Deficiencies must be made up early in the graduate program and before being advanced to candidacy.

Specific Test Requirements

Graduate Record Examination, General; Department Comprehensive

Examinations are given in the first week of fall quarter to assess student's preparedness to take graduate courses in their proposed areas of specialization.

Basic Requirements of Specialization
45 credits; 35 or more credits of graduate (500- and 600-level) courses (no more than 10 credits may apply from 400-level courses). The 600-level credits shall include Geol 690 (12). The 500-level courses shall include Geol 580 (3) and Geol 595 (total of 3).

Electives in Specialization

Geology and supporting courses are selected under advisement through the program adviser and thesis committee chair. Students intending to study the specialties offered by the department also will be expected to be knowledgeable in the subjects under one of the speciality areas listed below:

Petrology, geochemistry, structure, or economic geology: Mineralogy, petrology and thin-section petrography, structural geology, and stratigraphy/sedimentation.

Geophysics: Mineralogy, petrology (without thin-section petrography), structural geology, stratigraphy and sedimentation, and have had at least one course in geophysics.

Hydrology or applied geology: Mineralogy, geomorphology, stratigraphy and sedimentation, and geophysics.

Stratigraphy/sedimentation: Historical geology, mineralogy, petrology, structural geology, stratigraphy and sedimentation, and paleontology.

Paleontology: Historical geology, paleontology, stratigraphy and sedimentation, and zoology.

Geomorphology: Mineralogy, petrology (without thin-section petrography), geomorphology, stratigraphy and sedimentation, and structural geology.

Specialization should be made as early as possible in the student's graduate career.

M.Ed. — NATURAL SCIENCE

Earth Science Specialization, Thesis and Non-Thesis

Program Adviser:

Dr. Robert A. Christman

Prerequisites

Completion of an undergraduate major in earth science or geology. Undergraduate majors in chemistry, physics, physical science, geography, general science or biology may also be eligible provided the specific requirements below have been met.

The following courses or their equivalents must be completed: Geol 211 (5), 212 (4), 305 (3), 306 (5), 310 (5), 407 (4); Chem 121 (5) and 122 (5); Physics 114 (4) and Astron 315 (3) or 219 (5); Math 121 (5); plus an additional 13 credits in chemistry, physics, math or biology. Any deficiencies in these requirements may be made up outside the credit hour requirements for the Master of Education degree.

For curriculum requirements, see "Natural Science" section.

History

College of Arts and Sciences

GRADUATE FACULTY

- Christelow, Stephanie E., PhD, ancient and medieval history.
 DeLorme, Roland L., PhD, 20th century American history, American West, Pacific Northwest.
 Eklund, Don D., PhD, American social/intellectual and Native American history
 Eurich, S. Amanda, PhD, early modern France and European social history.
 Galloway, Alan, PhD, colonial America, South.
 Helfgott, Leonard M., PhD, modern Middle East
 Hitchman, James H., PhD, 20th century American and diplomatic history, U.S. maritime history
 Horn, Thomas C. R., PhD, early modern Europe, Renaissance and Reformation.
 Jackson, Harry D., PhD, middle period in American history, American economic history, women in American history.

- Kaplan, Edward H., PhD, Chinese history.
 Mariz, George E., PhD, intellectual history of 19th century Europe, history of Great Britain.
 Rhoads, James B., PhD, Director, Graduate Program in Archives and Records Management.
 Ritter, Harry R., PhD, modern Europe, historiography.
 Schwarz, Henry G., PhD, Chinese and Mongolian history.
 Truschel, Louis W., PhD, African history.

Fields of Study

- Archives and Records Management
 African History
 Ancient History
 East Asian History
 British History
 Historical Resources Administration
 Medieval History
 Middle Eastern History
 Modern European History (1500 to the present, including Russia)
 United States History
 Latin American History
 Canadian History

M.A. — HISTORY, THESIS AND NON-THESIS

Program Adviser:

Dr. James B. Rhoads
 Humanities 278

Prerequisites

Admission to graduate status and to graduate courses requires completion of an undergraduate major in history or the permission of the department. Applicants must also complete both the General and Subject (history) sections of the Graduate Record Examination prior to admission to the program.

Program Options

The department offers two programs — Option A (thesis) and Option B (non-thesis):

Option A Thesis: Basic Requirements

Hist 501	[1:4]
Hist 690a,b,c (thesis)	[1:12]
Four reading seminars*	[1:16]
Elective courses	[1:13]

Note: The thesis option requires the writing of a comprehensive examina-

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tion in *TWO* of the general fields of study listed above, as well as an oral defense of the completed master's thesis. It is recommended for those who wish to pursue further graduate-level study in history.

Option B Non-Thesis: Basic Requirements

Hist 501	[11:4]
Four reading seminars*	[11:16]
Two writing seminars*	[11:8]
Elective courses	[11:20]

Note: The non-thesis option requires the writing of a comprehensive examination in *TWO* of the general fields of study listed above.

**Reading and Writing Seminars: Reading seminars (designated "r" in the time table of classes) revolve around reading and discussion of special topics; shorter written exercises such as exploratory or bibliographical essays may be assigned, but not major papers. Writing seminars (designated "w") are extensions of reading seminars in which students write major research papers based on previous preparation in a reading seminar.*

Electives

To complete a program in either option A or B, electives may be chosen, in consultation with the graduate adviser from other seminars, readings courses, 400-level undergraduate courses (maximum of 10 credits) or Hist 500 (in rare cases, only with permission of the graduate adviser).

Specific Test Requirements

Applicants are required to take the Graduate Record Examination (General and History sections) *prior* to acceptance into the graduate history program. As noted above, Option A requires an oral defense of the master's thesis and a comprehensive written examination in two fields of study. Option B requires a written comprehensive examination in two fields of study.

Language Requirement

Candidates must demonstrate a reading knowledge of an appropriate foreign language, to be determined by successful completion of an exami-

nation administered by the Foreign Language Department (or, where appropriate and with departmental permission, a demonstrated competence in mathematics, statistics, accounting or computer programming).

GRADUATE PROGRAM IN ARCHIVES AND RECORD MANAGEMENT

Program Director:

Dr. James B. Rhoads
Humanities 278

The department of History coordinates an inter-departmental graduate program leading to the degree of Master of Arts in history with a concentration in archives and records management. The program is offered in cooperation with a number of agencies and organizations throughout the Pacific Northwest, which provide practical experience in archives administration and records management. Two years are usually required to complete this degree.

This program has been approved by the Western Interstate Commission for Higher Education (WICHE). Candidates from designated member states are charged the Washington resident tuition rate. Contact the Graduate Office for further details.

Prerequisites

A baccalaureate degree from an accredited U.S. college or university, or an equivalent degree from a foreign university, with a minimum of 25 credits in history or an allied field, and a grade point average of 3.00. For further information on admission requirements and procedures, contact the program director.

Basic Requirements

Hist 501	[1:4]
Hist 595	[1:6]
Hist 596 or 598	[1:4]
Hist 599a,b	[1:20]
Hist 690a,b,c	[1:12]
Four reading seminars	[1:16]
Elective courses	[1:12]

Electives

Electives, including appropriate courses in political science, business administration, computer science, or library science, as well as in history, should be chosen in consultation with the graduate adviser and the program director.

Thesis Requirement

A thesis is normally required, although in special circumstances a field project may be substituted. Thesis topics involving the history of archives administration and records management, or an emerging problem in these disciplines, are encouraged.

Other Requirements

Specific test and language requirements are identical to those required for the regular M.A. in history. In addition, there is a requirement of demonstrated computer literacy, as reflected by course work or examination.

Certificate Program

The department also offers a certificate in archives and records management to students who already possess a master's degree from a accredited institution and who complete the following course work: Hist 596 (6); 596 or 598 (4); 599a,b (20).

GRADUATE PROGRAM IN HISTORICAL RESOURCES ADMINISTRATION (NON-THESIS OPTION)

Program Director:

Dr. Harry D. Jackson
Humanities 278

The Department of History offers a graduate level program leading to a specialization in historical resources administration. The following courses represent the minimum requirements for the degree program. For further information, write or consult the program director.

Hist 591a,b [II:8]
Hist 592a,b,c [II:18]

Hist 501 [II:4]
Elective courses [II:24]

Date for receipt of graduate teaching assistantship applications is May 1 for all program specializations.

Huxley College

*Huxley College of Environmental
Studies*

GRADUATE FACULTY

Gayden, Ernst L., MS, human ecology, applied human ecology.
Hardy, John T., PhD, toxicology, global climate change, biological oceanography.
Landis, Wayne G., PhD, environmental toxicology and population biology.
Maguire, Christine C., PhD, environmental systems and biometrics.
Matthews, Robin, PhD, stream ecology, watershed management.
Mayer, J. Richard, PhD, aquatic chemistry, ground water studies.
Robbins, Lynn A., PhD, social impact assessment.
Storch, Thomas A., PhD, limnology, aquatic microbiology and algal ecology
Summers, William C., PhD, marine ecology
Webber, Herbert H., PhD, marine biology.
Weiner, Ruth F., PhD, air quality, energy, risk analysis.
Yu, Ming-Ho, PhD, environmental biochemistry, nutritional toxicology.

M.S. — ENVIRONMENTAL SCIENCE, THESIS ONLY

Program Adviser:

Chair, Huxley College Graduate
Program Committee
Environmental Studies Center 539

The M.S. in environmental science is a two-year curriculum which draws upon course work from Huxley College and the other colleges of WWU. It is directed toward the development and integration of scientific information in order to describe, predict and/or manage natural systems, and to assess human impact on those systems.

M.S. Specializations

*Environmental science program
specializations are:*

—**Applied Ecology**, centering on the

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effect of human impact on the ecology of terrestrial systems, especially at the level of populations and communities. Emphasis is on the impact of habitat change on populations of indicator species and the effects of contaminants on ecologically important species.

—**Freshwater Ecology**, comprising the study of physical, chemical and biological processes in freshwater systems, including lakes, streams and their associated watersheds.

—**Environmental Management**, dealing with the application of theory and practice of environmental science to the preservation and restoration of ecological balance and environmental quality in local or regional natural systems.

—**Environmental Toxicology**, focusing on the evaluation of impacts of toxic substances on certain terrestrial and aquatic organisms and ecosystems, and combining laboratory testing with field work. The specialization may include studies on the biochemical, organismal and behavioral effects of toxic substances.

—**Nutritional Biochemistry**, emphasizing the biological effects of environmental pollutants, including the study of the chemical characteristics of pollutants and their physiological and biochemical effects of living systems, and the influence of nutritional factors on pollutant toxicity.

Cooperative graduate program options are:

—**Environmental Chemistry**, concerned with the transport and fate of chemical substances in the environment, including work relating to the detection and identification of both man-made and natural substances and their chemical behavior in ecosystems. (This specialization is a cooperative program with the Department of Chemistry, described in the following text.)

—**Marine and Estuarine Science**, providing a coherent program of study in coastal marine and estuarine

systems, based on a scientific understanding of fundamental physical, chemical and biological processes that characterize these systems. (This specialization is a cooperative program with the Department of Biology and the Shannon Point Marine Center, described in the following text.)

Students seeking a graduate program emphasizing environmental education should consult the Graduate School section of this catalog for a description of the M.Ed. in Natural Science/Science Education. Among this program's specializations is one in environmental studies, directed toward practicing public school teachers or those with teaching experience in an educational enterprise with a focus on environmental or outdoor education.

Prerequisites

A bachelor's degree in the physical or life sciences, engineering, mathematics, interdisciplinary science program or equivalent area of study; one year of college-level general chemistry; background in organic chemistry and analytical chemistry; one year of college-level biology; background in ecology; background in calculus and analytic geometry; additional prerequisites depending on graduate program option.

Specific Test Requirements

For all options: Graduate Record Examination, General Test. For the marine and estuarine science specialization: biology subject test of the GRE. For the environmental chemistry specialization: chemistry subject test of the GRE.

Application

Students will be admitted into the M.S. in environmental science program fall quarter only. Applications for fall admission should be received by February 1 for all options except marine and estuarine science; application deadline for that program is March 1.

An application for admission into the M.S. program must include a one- to two-page statement of purpose indicating which graduate areas of emphasis (top two priorities) the applicant is most interested in, explaining why the applicant wishes to pursue graduate studies in environmental science, and what future expectations he or she has for the M.S. degree.

Western Washington University is a member of the Western Interstate Commission for Higher Education (WICHE); this membership entitles out-of-state graduate students from participating Western states to pay in-state tuition when enrolling in the environmental toxicology specialization of Huxley's M.S. in environmental science program.

Program Requirements

Forty-five credits minimum, under advisement. A suggested course of study would be 21 or more credits of Huxley graduate course work, including Envr 501 (required); 12 or more credits of an approved distribution of graduate courses from other colleges at WWU; 12 credits of Envr 690a (thesis). Ten credits or less of approved 400-level course work may be included in the program.

For further information, write or consult the chair, Graduate Program Committee, or the dean of Huxley College.

M.S. — ENVIRONMENTAL SCIENCE (ENVIRONMENTAL CHEMISTRY), THESIS ONLY

Program Advisers: Chair, Huxley College Graduate Program Committee; Graduate Program Adviser, Chemistry Department

Huxley College of Environmental Studies and the Department of Chemistry administer a cooperative program leading to the M.S. in environmental science (environmental chemistry specialization) or the M.S. in chemistry (environmental chemis-

try specialization). Emphasis is on application of chemical principles, methods and concepts to the understanding and potential solution of certain environmental problems. Applicants must indicate which department they wish to be based in.

Students pursuing a master's degree in chemistry (environmental chemistry) will take course work distributed in the following manner: Chemistry Department, 21 credits; Huxley College, 12 credits; and thesis research in Chemistry Department, 12 credits, for a total of 45 credits. The thesis adviser can be from Huxley College or the Chemistry Department. The thesis committee chair will be from the Chemistry Department.

Students pursuing a master's degree in environmental science (environmental chemistry) will take course work distributed in the following manner: Huxley College, 21 credits; Chemistry Department, 12 credits; and thesis research in Huxley College, 12 credits, for a total of 45 credits. The thesis adviser can be from Huxley College or the Chemistry Department. The thesis committee chair will be from Huxley College.

Undergraduate and transfer course limitations are the same as those for the environmental science M.S. program.

Fulfillment of program requirements for specialization in environmental chemistry must include satisfactory completion of at least one course from the following: Envr 530a, 530b, 531, 550, 551, 556.

Students must be able to demonstrate background (at least one quarter or semester) in analytical chemistry, physical chemistry and instrumental analysis. In addition, students should have a full year of organic chemistry or one course in organic chemistry plus a course in biochemistry.

M.A. — POLITICAL SCIENCE (ENVIRONMENTAL STUDIES), THESIS AND NON-THESIS

Curriculum Coordinators:

Dr. Debra Salazar, Political Science
Arntzen Hall 415

Dr. Lynn A. Robbins, Huxley College
Environmental Studies Center 539

The political science (environmental studies) curriculum is a joint offering of the Political Science Department and Huxley College of Environmental Studies.

Students with a bachelor's degree who meet the requirements of the Graduate School and who show evidence of strong academic performance and scholarly potential are invited to apply. Admissions preference is given to students with course work in political science or related social sciences. Entering students should have completed undergraduate course work in American political processes and social science methodology. Admissions will be approved by the graduate committee. Any deficiencies must be made up early in the program before the student is advanced to candidacy.

Thesis Option (minimum 45 credits)

- Required courses (13 credits): Pol Sci 501, 502, Pol Sci/Envr 524.
- One political science field from among four offered by political science; students will be required to complete the core course plus at least one other 500-level course in the field (8-10 credits).
- Environmental policy studies field to be constructed by student in consultation with environmental policy studies adviser; must include two 500-level environmental studies courses and one other course (10-12 credits).
- Comprehensive exam in the political science field (exam will include an applied section on environmental policy studies).

— Thesis; may be completed as Pol Sci 690 or Envr 690 (9 credits).

— Language/methods requirement: demonstrated competency in computer/statistics applications, or a reading knowledge of a foreign language.

— Electives to total 45 credit minimum.

Non-Thesis option

(minimum 48 credits)

Same as above except for thesis but will include additional 12 credits of course work (at least 4 credits in each field; selected in consultation with environmental policy studies adviser).

M.S. — ENVIRONMENTAL SCIENCE (MARINE AND ESTUARINE SCIENCE), THESIS ONLY

Curriculum Coordinator:

Dr. Stephen D. Sulkin
Shannon Point Marine Center

The marine and estuarine science option is a joint offering of Huxley College, the Department of Biology and the Shannon Point Marine Center. The option is designed to provide focus on local coastal marine environments and biota. The curriculum requires a minimum of 45 credits of course work, including 12 credits of thesis research, and the completion of a thesis based on original research in an area of specialization relevant to the marine sciences. Students will be expected to show proficiency in two topics before advancement to candidacy: (1) an understanding of regional marine and estuarine environments, biota and topical management issues, and (2) an understanding of fundamental biological and chemical oceanographic processes.

Prerequisites

Students matriculated through Huxley College must meet the prerequisites for admission described in the environmental science M.S. option.

For full consideration, completed applications should be received by March 1. Applications should include a statement of interest and the identification of potential faculty supervisors. For a complete list of participating faculty and their research interests, and for further information, write to Dr. Stephen Sulkin, director, Shannon Point Marine Center, Anacortes, WA 98221.

Mathematics

College of Arts and Sciences

GRADUATE FACULTY

- Amiran, Edoh Y., PhD, differential geometry, smooth dynamical systems.
 Chalice, Donald R., PhD, complex function spaces and associated measures.
 Curgus, Branko, PhD, differential equations, operator theory.
 Fil iman, M. Paul, PhD, geometry.
 Hartsfield, Nora, PhD, graph theory.
 Jewett, Robert I., PhD, harmonic analysis.
 Johnson, Jerry L., PhD, mathematics education
 Levin, Richard G., PhD, numerical analysis (numerical linear algebra).
 Lindquist, Norman F., PhD, coding theory, partition theory.
 Read, Thomas T., PhD, ordinary and partial differential equations.
 Reay, John R., PhD, combinatorial geometry and convexity.
 Shen, Yun-qiu, PhD, nonlinear differential equations numerical analysis.
 Verosky, John M., PhD, mathematical physics, differential equations, differential algebra.
 Woll, John W., PhD, algebra and probability.
 Ypma, Tjalling J., DPhil, numerical analysis.

M.S. — MATHEMATICS, THESIS OR PROJECT

Program Adviser: Dr. John R. Reay
Bond Hall 202

Specific Test Requirements
Graduate Record Examination, General Test.

GRADUATE DEGREE STATUS (DEPARTMENTAL REQUIREMENTS)

To be eligible for admission to the M.S. program in mathematics a student should have completed at least

the following courses or the equivalent with grades of B or better: Math 224, 304, 312, 331, CS 210 and two courses at the 400 level.

A student who has not completed all of these courses but who can demonstrate strong promise of the ability to succeed in the program may be admitted with special stipulations. In this case, the graduate adviser will, in consultation with the student, specify the conditions to be satisfied by the student in order to fully qualify for the program.

Requirements — Thesis or Project Options

The student's program must include at least 45 quarter hour credits and a thesis (thesis option) or 48 credits (project option) of approved course work. At most, 10 credits at the 400 level can be included in this total. The following mathematics courses are required for graduation: 523, 524, and one course from each of the following four lists: (1) 502, 503, 505, 508, 564; (2) 518, 520, 539; (3) 535, 542, 546, 547; (4) 573, 574, 575, 576.

The student's program must include at least 7 of the following courses: Math 503, 504, 505, 508, 515, 518, 520, 521, 522, 523, 524, 528, 533, 539, 546, 547, 560, 564, 570, 573, 574. The department Graduate Committee may add other courses to this list.

A student who has not completed a senior-level course in one or more of the following areas also will be required to include the indicated course or courses as part of his or her program: abstract algebra (401), second course in ordinary differential equation (432), complex analysis (538), probability or statistics (541).

Qualifying Examination for Candidacy

Each student must pass a qualifying examination before being advanced to candidacy.

Advancement to Candidacy

Students are advanced to candidacy

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when they have demonstrated a reasonable likelihood of completing their program. They must have completed at least 12 hours of approved course work with a B average, including at least one course numbered 500 or above, and have passed the qualifying examination.

Students are recommended for candidacy by the Graduate Committee. The student is responsible for initiating this action when he or she considers the conditions met.

Project Option

A student who does not write a thesis must complete a non-thesis project. Two credits toward the degree will be awarded upon successful completion of the project which will involve both an oral examination on the subject of the project and a colloquium presentation to the mathematical community. See the departmental graduate handbook for additional details.

FURTHER INFORMATION AND ADVICE

We urge the student to prepare a program of courses in consultation with his or her adviser as soon as possible after beginning work toward a degree. Deviations may be approved by the Graduate Committee upon request of the student's adviser. For the student's protection, such approval should be obtained before any deviations are made.

A student who wishes to include a course numbered 400, 499, 500 or 599 as part of his or her graduate degree program must obtain approval in advance from the Department's Graduate Committee. The Graduate Committee will consider approval on the basis of a detailed written description submitted by the student not later than three weeks before the date of registration. If the course is approved for graduate credit, the description will be retained in the student's file.

Music

College of Fine and Performing Arts

GRADUATE FACULTY

- Briggs, Roger D., PhD, composition, theory/analysis, orchestration.
Hill, Ford D., MMus, piano, keyboard pedagogy, performance studies.
Iglitzin, Karen, MMus, violin, viola, chamber music, string pedagogy.
Israels, Charles, BA, jazz studies, ensembles, string bass, electric bass.
Morris, Jack, MMus, opera, voice.
Pullan, C. Bruce, MA, Chair, opera, conducting, voice, vocal pedagogy, musicianship.
Rutschman, Carla J., PhD, music history and literature, musicology, music education, lower brass.
Rutschman, Edward R., PhD, graduate program advisor, theory/analysis, counterpoint, music history.
Scandrett, Robert L., PhD, choral conducting, music history and literature, pedagogy, choirs.
Shaw, Albert C., DMus Ed, music education, conducting, instrumental music, percussion.
Terey-Smith, Mary, PhD, music history and literature, musicology, analysis, Collegium Musicum.
Wallace, David, DMA, conducting, instrumental music, percussion bands.
Zoro, Eugene S., MMus, ear training, woodwind pedagogy, clarinet, chamber music.

MASTER OF MUSIC, THESIS ONLY

Program Adviser:

Dr. Edward Rutschman
Performing Arts Center 273

Basic Requirements for All Concentrations

Music 541, 542, 543, 544 (select three)	[12]
Music 503	[4]
Music 532 and 533	[6]
Music 690 Thesis	[6]

All students admitted to graduate study must register for at least one course in the area of basic requirements during each quarter of enrollment until those requirements are fulfilled.

Requirements and Electives for Each Concentration

Composition Concentration

Music 534, 535, 536 [12]
Electives [5]

History and Literature Concentration

Music 443 (select two) [6]
Music 441 [3]
Music 540 (for three quarters) [6]
Music 550 [3]

Performance Concentration

Elect one of the following courses in each of three quarters:

Music 474, 475, 478, 481, 483, 540 [6]
Music 511, 512, 513, 514 or 515 [9]
Electives [2]

Conducting Concentration (Choral Conducting, Orchestral Conducting, Band Conducting)

Conducting Studies [9-17]
Music 501, 502 and approved 400-level and/or 500-level course(s)

Basic Musicianship [0-9]
Courses to be selected from the following (any not selected under Basic Requirements): Music 541, 542, 543, 544, 550, 531, 534, 535, 536 and approved 400-level and/or 500-level course(s)

Applied Music [0-9]
Music 511-515 and/or approved 411-418 course(s)

Ensemble [0-9]
Approved 400-level and/or 500-level ensemble course(s)

Music Education Concentration (Instrumental Music Supervision, Choral Music Supervision, Choral Conducting, Orchestral Conducting, Band Conducting)

Professional Understandings/
Techniques [6-9]
Music 501, 502, 525 or any approved 400-level course(s)

Basic Musicianship [3-9]
Courses to be selected from the following: (any not elected under Basic Requirements) Music 531, 534, 535, 536, 541, 542, 543, 544, 550, or any approved 400-level course(s)

Applied Music [0-9]
Music 511-515, or approved 411-418

Ensemble [0-9]
Approved 400-level or 500-level ensemble course(s)
Guided Electives in Professional Education in Departments of Education or Psychology [3-9]

Prerequisites and Examinations

1. Prerequisite for admission to the M.Mus. program is an undergraduate major in music or its equivalent.

Students in the *Composition* concentration must submit at least three original compositions for evaluation.

Students in the *Performance* concentration must audition before a faculty committee or submit tape recorded performance for evaluation. Vocal performers must demonstrate competence in German, French and Italian diction.

Students in the *History and Literature* concentration must demonstrate strength in that area by interview with appropriate faculty members.

Students in the *Conducting* concentration must demonstrate ability and experience in conducting by interview with appropriate faculty members. In addition, they must prepare a curricular proposal for approval by an appropriate faculty committee.

Students in the *Music Education* concentration must prepare a curricular proposal for approval by an appropriate faculty committee, subject to final approval by the department.

2. Placement examinations in music theory and music history must be taken prior to beginning the program. Courses necessary to remove deficiencies are not credited toward the degree.

Graduate School

3. The Graduate Record Examination, General and Subject in Music must be taken, and the scores should be received by the WWU Graduate School along with other application materials.
4. Students in history and literature concentration must pass a reading examination in French or German.
5. Candidates for the Master of Music degree must successfully complete a comprehensive oral examination covering all course work taken for the degree, as well as material related to the thesis.

Natural Science/ Science Education

College of Arts and Sciences

GRADUATE FACULTY

Barrett, W. Louis, PhD, physics.
Christman, Robert A., PhD, geology.
Dallas, Lee A., EdD, educational curriculum and instruction.
Miller, John A., PhD, chemistry.
Nickelson, Alden L., PhD, educational curriculum and instruction.
Parakh, Jai S., PhD, biology.
Schwartz, Maurice L., PhD, dean, Graduate School.
Slesnick, Irwin L., PhD, biology.
Stewart, James E., PhD, physics.
Whitmer, John C., PhD, chemistry.

M.Ed. — NATURAL SCIENCE/ SCIENCE EDUCATION

Adviser: Science Education Coordinator with advisement in specialized areas:

Biology: Dr. H. A. Brown
Chemistry: Dr. J. A. Miller
Earth Science: Dr. R. A. Christman
General Science, Physical Science: Dr. J. A. Miller
Elementary Science: Dr. J. A. Miller
Environmental Studies: Dr. John Miles

Prerequisites

Students applying for admission to the natural science/science education M.Ed. program are normally expected to have a teaching certificate and have completed at least one year of teaching in the K-12 system prior to the quarter they will enter the program. Exceptions are made on a case-by-case basis for those applicants having other types of teaching experience or other specific positions for which this degree program would provide obvious benefits.

Basic Requirements

EdAF 501, 512, 513 [12]
Sci Ed 501, 513 [7]

Specific Test Requirements

Graduate Record Examination, General; Subject in Biology for applicants selecting this option.

Specializations — Secondary Programs

Biology, Thesis and Non-Thesis

Requirements in specialization
Biol 690 or Sci Ed 690 [I:6-9]
Sci Ed 598 [II:6]
Electives

Courses selected under advisement [I:17-20, II:23]

For prerequisites, see Biology Department listing

Chemistry, Thesis and Non-Thesis

Requirements in specialization
Sci Ed 580 or 590 [I and II:2-5]
Sci Ed 690 [I:6]
Sci Ed 598 [II:6]
Electives

Courses selected under advisement [I:15-18, II:18-21]

For prerequisites, see Chemistry Department listing

Earth Science, Thesis and Non-Thesis

Requirements in specialization
Geology field course [I and II:5-10]
Geol 690 or Sci Ed 690 [I:6-12]
Sci Ed 598 [II:6]
Electives selected under advisement [I:4-15, II:13-18]

For prerequisites, see Geology Department listing

**General Science, Physical Science:
Thesis or Field Project (45 credits)**Requirements in specialization
Sci Ed 690a or 690b [6-12]**Electives**

Courses selected under advisement from astronomy, biology, chemistry, geology, physics, science education, educational curriculum and instruction or educational administration and foundations. Specialization in physical science will include 5-15 credits in chemistry and 5-15 credits in physics. [14-20]

**General Science, Physical Science:
Non-Thesis (48 credits)**Requirements in specialization
Sci Ed 580a or 590 [4-5]**Electives**

Courses selected under advisement from astronomy, biology, chemistry, environmental studies, physics, science education, educational curriculum and instruction and educational administration and foundations. Specialization in physical science will include 5-15 credits in chemistry and 5-15 credits in physics. [24-27]

**Specialization — Elementary
Program****Prerequisites**

An applicant should be a practicing elementary school teacher. Applicant should have completed two quarters of science methods courses and the natural science education sequence with grades of B or better.

The curriculum resource specialty is designed to prepare teachers to take a leadership role in science education as well as increasing their competence to teach science.

**Elementary Program, Thesis or Field
Project (45 credits)**Requirements in specialization
Courses selected under advisement from Sci Ed 500, 582, 583, 584, 590, 592, 593, 594 having a science content basis [12]Additional requirements for
curriculum resource specialistSci Ed 511, 512 [6-9]
Sci Ed 690a or 690b [6-12]**Electives**

Courses selected under advisement from science education, educational curriculum and instruction or educational administration and foundations, biology, chemistry, geology or physics and related fields. [0-8]

**Elementary Program, Non-Thesis
(48 credits)**Requirements in specialization
Courses selected under advisement from Sci Ed 500, 582, 583, 584, 590, 592, 593, 594 having a science content basis [12]Additional requirements for
curriculum resource specialistSci Ed 511, 512 [6-9]
Sci Ed 580 [4-5]**Electives**

Courses selected under advisement from science education, educational curriculum and instruction or educational administration and foundations, biology, chemistry, geology or physics and related fields. [3-13]

**Specialization —
Environmental Studies****Prerequisites**

An applicant should be a practicing public school teacher or be teaching in an educational enterprise with a focus on environmental or outdoor education. The applicant should have completed a minimum of a natural science education sequence with grades of B or better. Each applicant's background will be examined to determine if one or more additional courses, besides those prescribed for the master's degree, are needed to remove deficiencies in background preparation.

**Elementary or Secondary, Thesis or
Field Project (49-59 credits)**Requirements in specialization
Envr 571 [4]
Envr 690 or 690b or
Sci Ed 690a or 690b [6-12]**Electives**

Courses selected under advisement

Graduate School

from natural science, education and including at least 10 credits in environmental studies [20-24]

Elementary or Secondary, Non-Thesis (49-59 credits)

Requirements in specialization
Envr 571 [4]
Envr 598 and/or Sci Ed 598 [6-12]

Electives

Courses selected under advisement from natural science, education and including at least 10 credits in environmental studies [20-24]

Physical Education, Health and Recreation

College of Arts and Sciences

GRADUATE FACULTY

Brilla, Lorraine, PhD, exercise physiology/nutrition education.

Clumpner, Roy, PhD, socio-cultural aspects of physical education/pedagogy.

Knutzen, Kathleen, PhD, biomechanics/kinesiology.

Miller, Marybeth, PhD, motor development/adapted physical education.

Vernacchia, Ralph, PhD, psychology of sport/sociology of sport/motor learning.

Adjunct Faculty

Brown, Daniel, MD, cardiology/rehabilitation.

M.Ed. — PHYSICAL EDUCATION, THESIS OR FIELD PROJECT

GRADUATE PROGRAM

Graduate study leading to a Master of Education degree is offered in two areas: mastery of teaching and performance enhancement, and exercise science.

Program Advisers: Dr. Lorraine Brilla, Dr. Roy Clumpner, Dr. Kathleen Knutzen, Dr. Marybeth Miller, Dr. Ralph Vernacchia.
Carver Gymnasium 102

Prerequisites

Physical education major/minor or

equivalent courses from the exercise science, socio-cultural and professional activity area

Specific Test Requirements

Graduate Record Examination, General Test prior to admission.

Other Requirements

Students must submit a written statement of purpose outlining areas of interest, goals for graduate study and future career plans relating to the degree. The maximum number of students enrolled into each area of study is limited. Students are encouraged to submit applications prior to May 1.

Mastery of Teaching and Performance Enhancement

(48-52 credits)

This degree is primarily a summer/off-campus program requiring attendance for a minimum of two consecutive on-campus summer quarters.

Requirements in Mastery of Teaching and Performance Enhancement:

PE 505, 506, 507, 592, (6 credits), 690a or 690b (6 credits); EdAF 501*, 512, 513 [35]

Specializations:

Pedagogy

Applicants pursuing this specialization must present documented evidence of previous teaching experience.

PE 504 and select 9 credits under advisement. [13]

Sport and Exercise Psychology

Applicants for this specialization must have a minimum of 15 credits in psychology: Psych 201; one class from Psych 311, 312, 313, 314, 315, 316; and one class from Psych 321, 322, 323, 324, 325, 326.

PE 541, 542, 551, Psych 511.

Select 6 credits from Psych 502, 504, 521, 524, 526, 527, 528 or their equivalent. [17]

Exercise Science (51-56 credits)

This degree is an academic-year pro-

gram which requires a two-year commitment since courses are offered on a two-year rotating basis.

Requirements in Exercise Science:
PE 506, 520, 540, 543, 690a (6-9 credits); EdAF 501*, 512, 513 [32-37]

Electives:

Select 19 credits under advisement from the following: PE 502, 507, 510, 511, 513, 533, 541, 542, 544, 592 [19]

*EdAF 501 must be taken within the first 15 credits of graduate study and before EdAF 512 and 513.

Political Science

College of Arts and Sciences

GRADUATE FACULTY

- Aiper, Donald K., PhD, American politics, political process, Canadian politics.
- Clarke, David E., PhD, political theory, environmental politics (emeritus).
- Foisy, Maurice H., PhD, political theory, policy, methodology.
- Hogan, Eugene J., PhD, public law.
- Hoover, Kenneth R., PhD, political theory, comparative public policy, ideology.
- Johnson, Vernon D., PhD, comparative politics, development in the Third World.
- Miner, Ralph E., PhD, public policy and administration, political economy, public finance, organization theory.
- Parris, Kristen D., MA, international and comparative politics, East Asian studies.
- Rutan, Gerard F., PhD, comparative politics, political theory, national intelligence and security studies.
- Salazar, Debra J., PhD, environmental politics, public policy, American politics.
- Weir, Sara J., PhD, public policy, American politics, women and politics.

M.A. — POLITICAL SCIENCE, THESIS AND NON-THESIS

Program Adviser: Dr. Donald Aiper
Arntzen Hall 415

The Political Science Department offers a thesis and a non-thesis option leading to the Master of Arts degree in Political Science. The thesis option is offered for the student who wishes to do research in a particular area.

Students may specialize in public policy and administration (PP&A). This specialization is designed primarily for students planning or having careers in the public service and for others whose careers involve considerable participation in the public policy process.

Students also may specialize in the environmental studies program, which is jointly sponsored with Huxley College of Environmental Studies. This specialization is intended for students interested in developing a cognate program involving one field of study (of the four offered) in political science and a field in environmental policy-making studies.

Admissions and Prerequisites

Students with a bachelor's degree who meet the requirements of the Graduate School and who show evidence of strong academic performance and scholarly potential are invited to apply. Admissions preferences are given to students with course work in political science or related social sciences. Entering students should have completed undergraduate course work in American political processes and social science methodology. Admissions are approved by the departmental Graduate Committee. Any deficiencies must be made up early in the program before the student is advanced to candidacy.

Applications should be received by February 1 and include a statement of purpose with the application materials requested by the Graduate School.

Specific Test Requirements

Graduate Record Examination, General Test.

Basic Requirements

Pol Sci 501, 502 [I and II:10]
Pol Sci 690 [I:6-9]

Electives under Thesis

Courses selected under advisement from 400- or 500-level courses in political science (a candidate must com-

Graduate School

plete at least 35 hours in courses available only to graduate students). The candidate is required to take the basic course in two of the following fields of concentration:

<i>Fields</i>	<i>Basic Courses</i>
Public Policy & Administration	Pol Sci 503
Comparative Government	Pol Sci 505
American Politics	Pol Sci 540
Political Theory	Pol Sci 560

Electives under Non-Thesis

Note that public policy and administration non-thesis specialization is separate.

Courses are selected under advisement from 400- to 500-level courses in political science (a candidate must complete at least 38 hours in courses available only to graduate students). A candidate is required to take the basic course in two of the following fields of concentration:

<i>Fields</i>	<i>Basic Courses</i>
Public Policy & Administration	Pol Sci 503
Comparative Government	Pol Sci 505
American Politics	Pol Sci 540
Political Theory	Pol Sci 560

Requirements in Public Policy and Administration Non-Thesis Specialization

Pol Sci 503, 510, 520, 521, 523, 540, 550 [II:27]

Electives in Public Policy and Administration Non-Thesis Specialization

Courses are selected under advisement from 400- to 500-level courses in political science, economics, psychology, sociology, education, business administration, and Huxley College of Environmental Studies.[II:11]

Other Requirements — Thesis and Non-Thesis

The student must meet one of the following requirements:

1. Students may demonstrate competency in computer/statistics applications by successfully completing (B or better): Pol Sci

366, Research in Politics, or Soc 320, Computer Applications for Social Science, or Soc 505, Computer Applications in Sociology. This requirement may be waived by the Graduate Committee providing the student can demonstrate *equivalent competence* in computer and statistics applications.

Should the student choose to take Soc 505, the credits may be counted toward the total required for the M.A. degree.

2. For students in a course of study requiring a reading knowledge of a foreign language, competency in the appropriate foreign language may be substituted for the computer/statistics applications requirement. This substitution must be discussed with the graduate adviser early in the program and must be approved in advance by the Graduate Committee.

Successful Comprehensive Examination

Written and oral in two fields, thesis and non-thesis, except Public Policy and Administration non-thesis specialization.

Written and oral in Public Policy and Administration non-thesis specialization.

M.A. — POLITICAL SCIENCE (ENVIRONMENTAL STUDIES), THESIS AND NON-THESIS

Curriculum Coordinators:

Dr. Debra Salazar, Political Science
Arntzen Hall 415

Dr. Lynn A. Robbins, Huxley College
Environmental Studies 539

The political science/environmental studies curriculum is a joint offering of the Political Science Department and Huxley College of Environmental Studies.

Admissions and Prerequisites

Prerequisites are the same as for the M.A. in political science program with additional consideration given to applicants who have a background in environmental studies or a related field. Admission is subject to approval by a committee consisting of the Political Science Graduate Committee and two members of the Huxley College faculty. Admission decisions for the political science (environmental studies) program normally will be made no later than March 15.

Students must complete the following requirements for the M.A. in political science/environmental studies:

Thesis Option

(minimum 45 credits)

Required courses (13 credits): Pol Sci 501, Political Science as a Discipline (5); Pol Sci 502, Research Techniques (5); Pol Sci/Envr 524, Environmental Politics and Policy (3).

One political science field from among four offered by the department (American politics, public policy and administration, comparative politics, political theory); students will be required to complete the core course plus at least one other 500-level course in the field (8-10).

Environmental Policy Studies field to be constructed by the student in consultation with environmental policy studies adviser; must include two 500-level environmental studies courses and one other course (10-12).

Comprehensive exam in the political science field (exam will include an applied section on environmental policy studies).

Thesis may be completed as Pol Sci 690 or Envr 690 (9).

Language/methods requirement is same as M.A. in political science.

Electives to total 45 credits minimum.

Non-Thesis Option

(minimum 48 credits)

Same as above except for thesis but will include additional 12 credits of

course work (at least 4 credits in each field; selected in consultation with environmental policy studies adviser).

Psychology

College of Arts and Sciences

GRADUATE FACULTY

- Carmean, Stephen, PhD, perception, thinking, communication.
- Crow, Lowell, PhD, physiological psychology, alcohol and behavior, psychophysiology.
- Cvetkovich, George, PhD, social psychology, environmental and population psychology.
- Dinnel, Dale L., PhD, educational psychology, cognition, problem solving.
- Elich, Peter J., PhD, educational, human learning, developmental.
- Grote, Frederick W., Jr., PhD, social development in children, early experience, child psychology and social issues.
- Hayden, Davis C., PhD, counseling psychology, counseling process research, computer simulations, family therapy.
- Hayes, S., PhD, school counseling, cross-cultural counseling, training and consultation with human services organizations.
- Kintz, B. L., PhD, general experimental, measurement and statistics, research design and computer uses in psychology.
- Kleinknecht, Ronald A., PhD, behavior therapy, fear/anxiety, health psychology.
- Lewis, Arleen C., PhD, school counseling, educational psychology, clinical.
- Lippman, Louis G., PhD, learning, verbal learning.
- Lippman, Marcia Z., PhD, cognitive development, psycho-linguistics, day care.
- Lonner, Walter J., PhD, cross-cultural psychology, tests, counseling.
- Meade, Robert D., PhD, human motivation, cross-cultural, human population problems.
- Miller, Laurence, PhD, experimental psychology, operant conditioning, psychological themes in films.
- Panek, David M., PhD, clinical, community, mental health, novelty and stimulus change.
- Prim, Merle M., PhD, sub-human primate behavior, physiological psychology, sensory, comparative.
- Rees, Rod, PhD, learning, decision and judgment, imagery, audition.
- Shaffer, Ronald W., PhD, learning, perception, phenomenology.
- Sue, David, PhD, clinical community counseling, Asian-American issues, sex therapy.
- Taylor, Christopher, PhD, industrial organizational, general experimental.
- Taylor, Sandra L., PhD, clinical, psychopathology, personality theory.
- Thompson, Richard W., PhD, physiological, comparative, psychopharmacology, history and systems.

Graduate School

Thorndike, Robert M., PhD, multivariate statistics, measurement, assessment of intelligence
Trimble, Joseph E., PhD, social, cross-cultural,
Tyler, Vernon O., Jr., PhD, clinical psychology, adolescence.

M.Ed. — SCHOOL COUNSELOR, THESIS AND NON-THESIS

Program Adviser: Dr. Arleen Lewis
Miller Hall 266

The M.Ed. school counseling program prepares professional counselors for employment in educational settings and is designed for those students intending to apply for the state certificate in guidance and counseling at the elementary and secondary levels. Certification as a public school teacher is *not* required for admission to the program.

The program contains a thesis option for those students interested in pursuing a research project related to the degree program.

Maximum student enrollment in the program is limited and students are encouraged to send completed application materials by March 15. All prerequisites must be completed prior to fall quarter enrollment. Documentation of personal suitability of applicants for counseling is required through statements of personal commitment, letters of reference and interviews where possible.

Prerequisites

Courses in general psychology, research methods in psychology or education, and psychology of learning, or a background in professional education.

Specific Test Requirements

Graduate Record Examination, General; and Subject in either Psychology or Education.

Course Requirements

Psych 502, 504, 532, 551,
553, 554, 555, 557, 558,
560, 561, 564, 565 [I and II:42]
EdAF 501, 512, 513 [I and II:12]

Psych 570 (4-9), 670 (18-21)
[I and II:24-30]
Psych 690 (for those students taking
the thesis option) [I:1-6]

Written Examinations

Each student is required to write an area comprehensive examination; for information contact the program adviser. Each student also is required to write a general education comprehensive exam; information is available in the Graduate School office.

M.S. — PSYCHOLOGY, THESIS ONLY

Program Adviser: Dr. Fred Grote
Miller Hall 266

Prerequisites

General psychology, statistics through inference, and a laboratory course in psychology are required. Students deficient in prerequisites must satisfy them by the end of their first quarter of study. The following courses are strongly recommended: one course in abnormal or personality; one course in social or developmental; two courses from learning, sensation, perception, motivation and physiological. A course in the history or systems of psychology or in philosophy of science is also recommended. There are additional prerequisites for the behavioral toxicology curriculum (see below).

Specific Test Requirements

Graduate Record Examination, General and Subject in Psychology.

Admissions Procedures

All applicants are initially screened for admission to the M.S. program in psychology irrespective of curriculum choice. Following this initial screening, applicants are reviewed by the curriculum committee corresponding to the curriculum chosen (i.e., general psychology, clinical/counseling psychology, school psychology or behavioral toxicology). In addition to the test requirements stated above, applicants for the M.S. mental health counseling curriculum will be required to submit additional

materials as requested. Admission to, and completion of, a specified curriculum will be recorded on each student's transcript. Students will be admitted to one of the specialized curricula prior to the beginning of fall quarter.

Applicants to the M.S. mental health counseling curriculum are strongly encouraged to submit their application materials by March 25. The deadline for application to the general curriculum is June 1 (for fall quarter, deadline established by the Graduate School); however, any applicant who wishes to be considered for a graduate teaching assistantship should meet the March 25 deadline.

Course Requirements

Each candidate is required to take the core, plus degree requirements. The core consists of Psych 501, 502, 511, and 512. Psych 690 is also required. Minimum of 45 credits is required for degree. Additional courses are required as specified in each of the curriculum descriptions.

Other Requirements

Each candidate should note that the department has requirements affecting retention in the M.S. program which are in addition to those general requirements of the Graduate School. Among these are the requirements that all admission prerequisites be satisfied by the end of the first quarter of study and that full, continuing enrollment in the required courses be maintained as specified for each curriculum. Grades lower than C are unacceptable. More than 10 credits of C or lower grades removes a student from the master's program. Any course in which an unacceptable grade is earned may be repeated only upon permission of the admission/retention subcommittee, following consultation with the appropriate curriculum coordinator. It is necessary to maintain at least a 3.00 (B) grade point average for all graded course work in order to be retained in the program. Retention in the mental health counseling curricu-

lum is also dependent upon the development of professional competence in interaction with clients and other professionals. Continuous evaluation by the appropriate curriculum committees will be the basis for retention of the student in the mental health counseling curriculum.

Electives

Psych 500, 504, 514-516, 518, 519, 520-532 and any 400 and 500 courses in the departments of biological sciences, chemistry, education, Huxley College of Environmental Studies, mathematics, philosophy, physics and sociology or anthropology approved by advisement only.

M.S. IN PSYCHOLOGY — GENERAL PSYCHOLOGY CURRICULUM

Curriculum Coordinator:

Dr. Robert Thorndike
Miller Hall 266

The graduate curriculum leading to an M.S. degree in general psychology is designed to provide basic and fundamental knowledge of the various aspects of behavior. This goal is accomplished through required courses in foundational areas of psychology, statistics and research design, and measurement. Required seminars, thesis work and elective courses in psychology and related areas complete the curriculum.

Students in the general psychology curriculum must complete the core course requirements for the M.S. psychology program (501, 502, 511, 512 and 690).

In addition to course requirements of the M.S. program, students in the general psychology curriculum are required to take 503, 508, 513, and three seminars from the following three groups: Group 1: Psych 522, 525 and 528; Group 2: Psych 520, 521, 523 and 524; Group 3: Psych 526, 527, 529, 530 and 532. No more than two of these seminars may be from one group. Psych 514-516, 518 and 519 are also offered as electives.

Graduate School

A concentration offered within the general psychology curriculum is Measurement, Evaluation and Statistical Analysis (MESA). In addition to the course requirements for students in the general curriculum (Psych 501-503, 508, 511-513, plus seminars), students will take the following psychology courses: 515, Multivariate Analysis (3); 516, Advanced Research and Evaluation Design and Data Analysis (3); 514, Topics in Quantitative Psychology (3-6); and 530, Seminar in Measurement (3). A thesis on an appropriate topic is also required. Additionally, students will take other electives under advisement and appropriate course work in computer science, depending on prior experience.

The student completing this concentration will gain competencies applicable to areas of employment requiring research design, data analysis, statistical evaluation and computer skills.

M.S. IN PSYCHOLOGY— MENTAL HEALTH COUNSELING CURRICULUM

Curriculum Coordinator:

Dr. David Sue
Miller Hall 266

This two-year curriculum is designed to prepare students for careers in the field of mental health. The intent of the mental health counseling curriculum is to provide a general foundation in theoretical and applied perspectives which are used by mental health professionals. Special emphasis is placed on skill development, supervised practica with a variety of clients, and on-site internships in various community and mental health clinics. An important component of the mental health counseling curriculum is exposure to cross-cultural counseling strategies. Attention to work with families and children is also included in the concentration.

The specialized curriculum in mental health counseling is open only to students who have been admitted to the master's program in psychology on the criteria described above. Further documentation of the personal suitability of applicants for counseling is required through statements of personal commitment, letters of reference and interviews where possible.

Students in the mental health counseling curriculum must complete the core course requirements for the M.S. psychology program (501, 502, 511, 512, 690). In addition, the following courses must be completed: Psych 504, 510, 532, 550, 553, 555, 557, 558, 560, 561, 564, 565, 570, 670 and one seminar from 520-531.

Sociology

College of Arts and Sciences

GRADUATE FACULTY

- Bulcroft, Kris, PhD, family research methods, aging.
- Inverarity, James, PhD, research methods, criminology, methodology.
- Mahoney, E. R., PhD, human sexuality, research methods, social psychology.
- Richardson, John, PhD, education, historical sociology, contemporary theory.
- Simpson, Carl (department chair), PhD, education, applied sociology.
- Stephan, G. Edward, PhD, theory, human ecology, social demography.

For further information:

Contact: Dr. James Inverarity, Graduate Adviser, Department of Sociology, Western Washington University, Bellingham, WA 98225-9081, (206) 676-3006.

The Sociology Department is not admitting students to its graduate program during the 1991-93 biennium. The department plans to accept applications after September, 1992, for enrollment beginning in September, 1993.

M.A. — SOCIOLOGY, THESIS ONLY

Program Adviser:

Dr. James Inverarity

Prerequisites

General sociology, research methods, statistics; a minimum of 20 quarter hours of upper-division sociology courses.

General Requirements

Normally students will complete requirements in the following order: (1) formal admission to the program; (2) completion of core and other graduate courses (at least 35 credit hours); (3) advancement to candidacy; (4) selection of thesis committee and problem; (5) submission of written thesis proposal; (6) oral defense of written thesis proposal; (7) submission of completed thesis.

Core Requirements

Soc 501, 502, 503, 505, 510, 515, 521, 530, and 690.

Electives

A maximum of 10 credits at the 400-level and any 500- or 600-level sociology courses. Courses from other departments must be approved by the Sociology Graduate Committee.

Specific Test Requirements

Graduate Record Examination, General Test.

Candidacy

For information concerning advancement to candidacy and specific program requirements, consult the "Sociology Graduate Students Manual," available through the department.

Speech Pathology & Audiology

College of Arts and Sciences

GRADUATE FACULTY

- Apel, Kenn, PhD, language disorders in children.
- McRandle, Carol C., PhD, audiology, aural rehabilitation.
- Seilo, Michael T., PhD, audiology, aural rehabilitation, experimental phonetics.
- Webb, Loren L. PhD, audiology, aural rehabilitation.
- Zeine, Lina, PhD, speech-language pathology.

M.A. — SPEECH — LANGUAGE PATHOLOGY AND AUDIOLOGY

Options: Thesis or Non-Thesis

Graduate Coordinator:

Dr. Lina Zeine, Parks Hall 17

This program has been approved by the Western Interstate Commission for Higher Education (WICHE). Candidates from designated Western member states are charged the Washington resident tuition fee. Contact the Graduate Office for further details.

Prerequisites

Before acceptance into the speech pathology/audiology (SPA) graduate program a student must have completed an undergraduate major in SPA or an equivalent professional "core" curriculum (see Department's graduate coordinator for details). Grade point average (GPA) requirements are consistent with the Graduate School. The Graduate Record Examination (General) must be completed satisfactorily.

Basic Requirements for all SPA graduate students

- SPA 502 (3)
- SPA 551 (3)
- SPA 690 (Thesis) (6-9)
- or
- SPA 691 (Non-Thesis) (3)

Requirements in Specialization

1. Speech-Language Pathology
 - 51 credits
 - a. **Requirements:** In addition to basic requirements, the student must complete: SPA 550, 552a or 552b, 553, 554, 555, 556, 558, 568a, 598a*, 599a*.
 - b. **Electives:** SPA 450, 465, 465a, 466, 510, 515, 559, 560, 563, 564a,b,c, 567, 568a,b,c,d,e, 570, 571, 574, 575, 575a, 580**, 592, 596, 598b*, 599b* and other

**Required for students intending to apply for Washington State CDS Certificate.

Graduate School

400-, 500-, and 600-level courses selected under departmental advisement.

2. Audiology and Aural

Rehabilitation 51 credits

a. *Requirements:* In addition to basic requirements, the student must complete: SPA 466, 558, 561, 562, 563, 564a,b,c, 565, 566, 568a,b,c,d,e, 571, 572, 574, 598a* or 599a*

b. *Electives:* SPA 405, 465, 465a, 510, 553, 555, 559, 560, 567, 570, 572, 575, 575a, 577, 580, 592, 596, 598b*, 599b*, and other 400-, 500-, and 600-level courses selected under departmental advisement.

**Although the internship courses (598a,b; 599a,b) are 8 credits each, only a total of 6 credits can apply toward the M.A. degree (3 credits of 598a and 3 credits of 598b or 3 credits of 599a and 3 credits of 599b). The student registers for 8 credits per course.*

Clinical Competence

In addition to meeting academic requirements, students specializing in speech-language pathology and audiology must demonstrate satisfactory competence in diagnostic and clinical practicums. Refer to course description for additional information.

Students are permitted to retake a clinical practicum only once. If a satisfactory grade is not achieved in the retake, students will not be permitted to continue in the practicum courses.

Not everyone is suited to work with clients in the clinical fields of speech-language pathology and audiology even though the student may maintain a satisfactory academic record. The faculty and staff of the Department of Speech Pathology and Audiology thus reserve the right to counsel students with this in mind, and to recommend a change of academic focus for the student who appears to

have personality traits that would prevent the student from being successful in the discipline.

Comprehensive Examination and Thesis/Non-thesis Oral Defense

A six-hour written comprehensive examination is required and covers the student's area of specialization(s) and graduate program up to the time of the examination. A minimum of 36 graduate credits must be completed before the comprehensive can be taken.

Further, in the same quarter in which a student expects to graduate, an oral examination based on the thesis or non-thesis paper and related items is required. For details regarding the comprehensive examination and oral defense, the student should consult the graduate coordinator.

Professional Certification Requirements

All students seeking certification as a Communication Disorders Specialist (ESA-CDS) in the public schools in the State of Washington must successfully complete a minimum of two quarters of public school internship in order to satisfy the Professional Education Advisory Board's requirements. Eligibility for the CDS certificate includes minimum scores of 80 on the Washington Pre-College Test or 700 on the Scholastic Aptitude Test; or 16 on the American College Test unless the individual holds any other education certification. Further information about CDS certification requirements may be obtained from the Internship Program director, or the graduate adviser.

The American Speech-Language-Hearing Association (ASHA) requirements for Certification of Clinical Competence in Speech-Language Pathology or Audiology stipulate the completion of 300 clock hours of practicum, 150 of which must be obtained at the graduate level. Also, the student must have a minimum of 9 hours of classwork and 35 clock hours in the minor area of study

(speech-language pathology or audiology). Consult the *ASHA Membership and Certification Handbook* for details.

Technology

College of Arts and Sciences

GRADUATE FACULTY

Raudebaugh, Robert A., EdD.
Olsen, Fred, PhD.
Seal, Michael, EdD.
Southcott, Marvin, MFA.

M.Ed. — TECHNOLOGY

Program Adviser:

Dr. Robert A. Raudebaugh
Ross Engineering Technology 204

The M.Ed. degree in technology education has been designed to meet the needs of teachers (one year of teaching in industrial arts or technology education is a prerequisite) who wish to convert an industrial arts program to technology education or to expand and/or improve an existing technology education program. It consists of a blend of hands-on activities and pedagogy which should provide teachers with both the technical skill and curricular knowledge to be able to implement similar activities in their classrooms.

The Technology Department has been allowed considerable influence over the required education courses as well, gearing that content to the unique needs of technology teachers. The program will be conducted on a cohort group basis. Teachers will not be allowed to take the course work independent of the group. A new group will be formed every two years as needed.

Summer One

EcAF 501; Tech 592g, 592e, 517

12 credits

Academic Year One

Tech 593, 500

12 credits

Summer Two

Tech 592a, 592n; EdAF 512, 513

12 credits

Academic Year Two

EdAF 690b; Tech 594

12 credits

Theatre Arts

College of Fine and Performing Arts

GRADUATE FACULTY

Catrell, Dennis E., MA
Gregory, William A., PhD.
O'Reilly, Maureen, MFA.
Ward, Thomas, MFA.
Vander Yacht, Douglas R., PhD.

M.A. — THEATRE

Program Adviser:

Professor Thomas E. Ward
Performing Arts Center 395

Two options lead to the M.A. degree. The thesis (Option I — 45 credits minimum) is offered for the student primarily interested in research and planning to enter a Ph.D. program or pursue other advanced academic training. It is also appropriate in some instances (e.g., directing, playwrighting) as training for professional performance. Option II (48 credits minimum) is typical for the student pursuing a career as a professional performer or as a teacher.

Students are admitted to the summer/fall terms only.

Prerequisites

An undergraduate major in theatre, or theatre and dance, or approval by committee. A personal interview is required and evidence of qualifications will be requested of applicants.

Specific Test Requirements

Graduate Record Examination, General Test; Diagnostic Examination (administered by the Department of Theatre Arts).

Core Requirements

All candidates must take the following:

Th A 501 [4]

Th A 522 [4]

Two courses from Th A 528a,b,c,d,e

[6]

Th A 570

[4]

Requirements in Specialty

Courses are offered in six specialties. The first course in each specialty

Graduate School

(*italicized*) is called the "Key Course" in that specialty.

Acting

560, 561, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Creative Education

550, 551, 690 (I) or 691 (II) and 595 (II) and one Key Course outside specialty.

Design/Technical Theatre

511, 512, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Directing

571, 572, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Dramatic Literature and Criticism

Three additional courses (beyond core) from 528a,b,c,d or e, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Playwriting

585, 586, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Key Courses outside specialty are selected under advisement.

Electives

Electives will be selected under advisement. No more than 10 credits of course work at the 400 level may be applied to the M.A. degree. No more than six credits of Theatre Arts 500 (Independent Studies) may be applied to the M.A. degree unless special approval is granted in advance by the graduate program adviser.

Language Requirement

Demonstrate a reading knowledge of an appropriate foreign language or related studies as approved by adviser.

In most instances knowledge of the subject matter and techniques of an allied discipline prove a valuable research or performance tool for the student, as a substitute for the language requirement. The department may require, in lieu of a language, the satisfactory completion of additional course work (beyond the basic 45-48 credits required for the M.A. degree) in 400- and 500-level courses in a col-

lateral discipline. These courses must have the approval of both the student's advisory committee and the allied department.

Comprehensive Examination

After admission to candidacy at a time agreed upon by the candidate and the graduate program adviser, the student will take a comprehensive written and oral examination demonstrating a broad competence in the theatrical and dramatic disciplines and a more detailed knowledge in the student's specialty.

Faculty/Student-Designed Programs

M.A., M.S., M.Ed.

At times students and faculty are able to develop special programs that are more interdisciplinary than the master's programs described in this catalog. In each instance this requires a plan of study that has been worked out by a group of faculty and an individual student and thereafter has been approved by the University's Graduate Council. At least two or more graduate disciplines must be involved.

Programs of this type are restricted by several factors: current offerings which can provide a basis for the individual program; availability of appropriate faculty for special assignment (conference course, projects); the applicant's academic preparation and ability; and the internal logic, or relationship of the elements of the proposed program. Each case is considered on its merits.

For candidates who are currently enrolled as graduate students no more than 15 credits of course work (completed by the end of the quarter the petition is approved) can apply toward the designated program.

Detailed information can be obtained by writing the Graduate Office, WWU, Bellingham, WA 98225. Ask for "Fact Sheet: Faculty/Student-Designed Programs." Procedures for applying are contained in the "Fact Sheet."

COLLEGE OF ARTS AND SCIENCES

Dr. Peter J. Elich, Dean

The College of Arts and Sciences, Western's largest academic division, contains 22 departments offering more than 60 major programs at both bachelor's and master's degree levels. Students may select majors in the traditional disciplines of the humanities, social sciences and natural sciences, and a variety of professional and applied areas. In addition, there is available a variety of interdisciplinary programs, and students may design their own majors through a program managed by the Department of Liberal Studies.

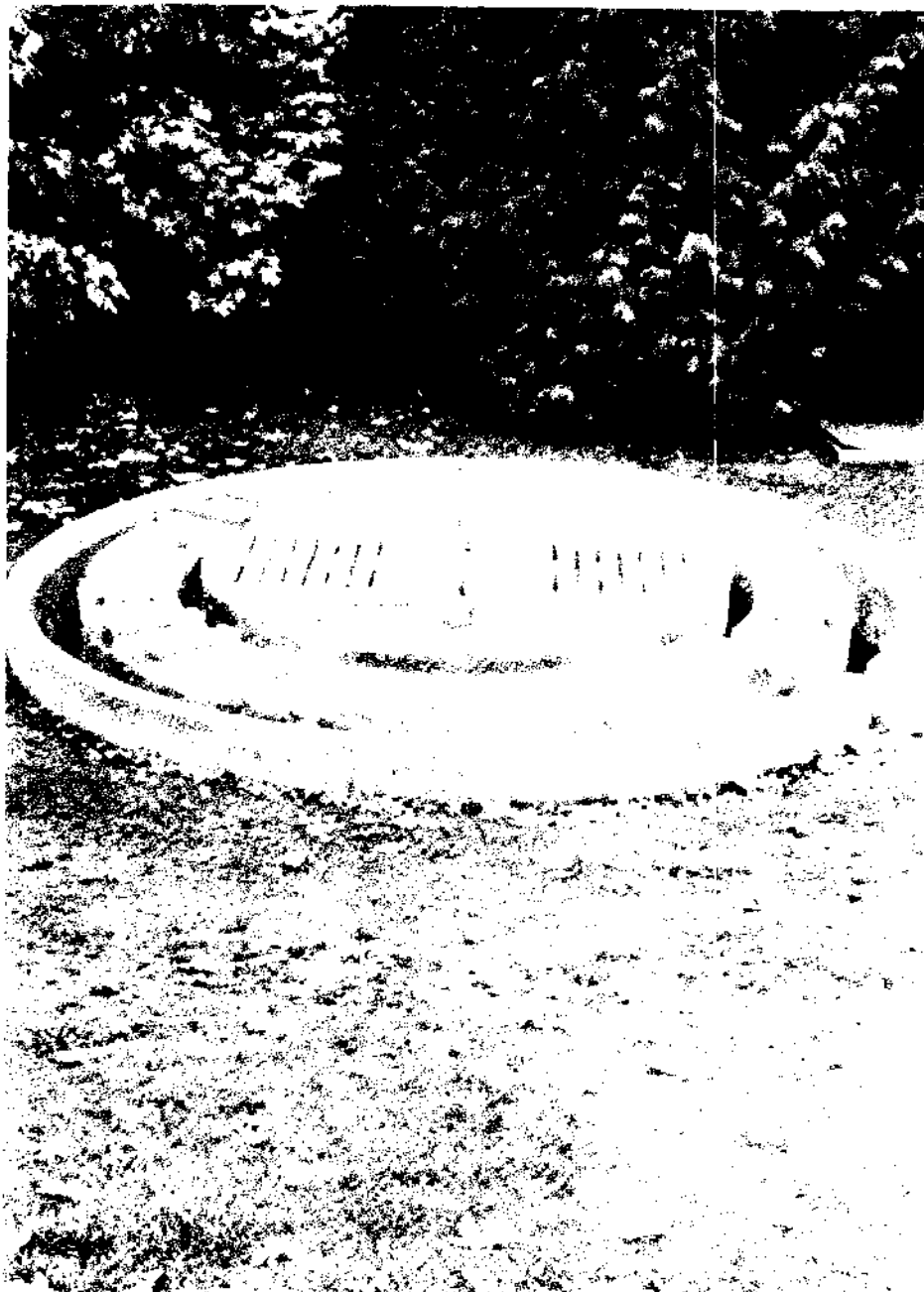
The College offers its undergraduate students a three-component liberal education; first, a program of education-in-breadth through *General University Requirements* (GUR) intended to prepare students for post-graduate life as educated persons and citizens; second, a program of education-in-depth in a disciplinary, interdisciplinary, professional, pre-professional or vocational *major* designed to prepare students for post-graduate careers or advanced courses of study; and third, a choice of *elective courses* which can help satisfy the student's curiosity about any of the multitude of subjects which the University's curriculum embraces.

The aim of such a liberal education is not only to prepare students for the special roles they will take on as baccalaureate graduates but also to help students acquire characteristics which distinguish educated persons. Thus, the faculty of the College, as a community of teachers and scholars, hope to produce graduates who are capable of informed and critical thinking; who have learned to tolerate ambiguity; who can appreciate cultural differences; who have devel-

oped moral and aesthetic sensibilities; who have mastered basic tools of literacy and mathematics; and who have acquired levels of information about the worlds of man and nature in the past and present sufficient for responsible citizenship and for the enjoyment of civilized society.

Academic Programs Leading to Undergraduate and Graduate Degrees

American Cultural Studies	BA
Anthropology	BA, BA/Ed, MA
Anthropology/Biology	BA
Apparel Design	BA
Biology	BA, BS, MS
Biochemistry/Cellular & Molecular Biology	BS
Biology/Chemistry	BA/Ed
Biology/Mathematics	BS
Canadian-American Studies	BA
Chemistry	BA, BS, MS
Chemistry/Mathematics	BA/Ed
Chemistry/Physics	BA/Ed
Classical Studies	BA
Communication	BA, BA/Ed
Communication/English	BA/Ed
Community Health	BS
Computer Science	BA/Ed, BS, MS
Earth Science	BA/Ed
Earth Science/General Science	BA/Ed
East Asian Studies	BA
Electronic Engineering Technology	BS
English	BA, BA/Ed, MA
English/Theatre	BA/Ed
English: Writing Concentration	BA
Environmental Engineering Geology	BS
Fashion Marketing	BA
Foreign Languages (French, German, Spanish)	BA
(French, German, Spanish)	BA/Ed
(French, German, Spanish)	M/Ed



General Science	BA/Ed	Industrial Design	BS
Geography	BA, BA/Ed, MS	Industrial Technology	BS
Geology	BA, BS, MS	Interior Design & Merchandising	BA
Geophysics	BS	Journalism	BA
History	BA, BA/Ed, MA	Manufacturing Engineering	
Home Economics	BA, BA/Ed	Technology	BS
Humanities	BA	Marine Biology	BS

Mathematics	BS, BA/Ed, MS
Mathematics/Computer Science	BS
Natural Science	M/Ed
Nutrition	BS
Philosophy	BA
Physical Education	BA, BA/Ed, M/Ed
Physics	BA, BS
Physics/Computer Science	BS
Physics/Mathematics	BA/Ed
Political Science	BA, BA/Ed, MA
Political Science/Economics	BA
Psychology	BA, BA/Ed, M/Ed, MS
Psychology-Industrial	BA
Recreation	BA
School Health Education	BA/Ed
Science Education	M/Ed
Social Studies	BA/Ed
Sociology	BA, BA/Ed, BS, MA
Speech Pathology & Audiology	BA, MA
Student-Faculty Designed Major	BA, BA/Ed, BS
Technology Education	BS
Terrestrial Ecology	BS
Visual Communication	BS

Majors and Minors

In addition to the General University Requirements and other common degree requirements of the University, the candidate for a Bachelor of Arts or Bachelor of Science degree must complete a major area emphasis which is usually accompanied by supporting courses. A minor is optional. A few concentrations are offered which encompass both a major and a minor. Students will confer with appropriate departmental advisers to plan study programs. Transfer students are expected to complete at least a portion of their work in the major and minor fields in this institution.

Student-Faculty Designed Majors

Students desiring concentrated study in areas not listed as majors by departments of the College of Arts and Sciences may design a major in conference with faculty members. Details of this procedure are available from the Academic Advisement Center or the chairman of the Department of Liberal Studies.

Academic Advisement

As the student completes the freshman year, which usually consists largely of courses that meet the General University Requirements, he or she is referred to the academic departments for continued personalized advisement in planning and selecting courses of study. Faculty within each department share responsibility for counseling students electing concentrations in their area. In some cases, faculty from several departments may cooperate with a student in constructing his or her own interdisciplinary major; in others, faculty members may recommend to the department chairman the waiving of certain course prerequisites (when it has been demonstrated that the student already has these competencies). Students who are undecided about a major may seek advisement through the Academic Advisement Center in Old Main.

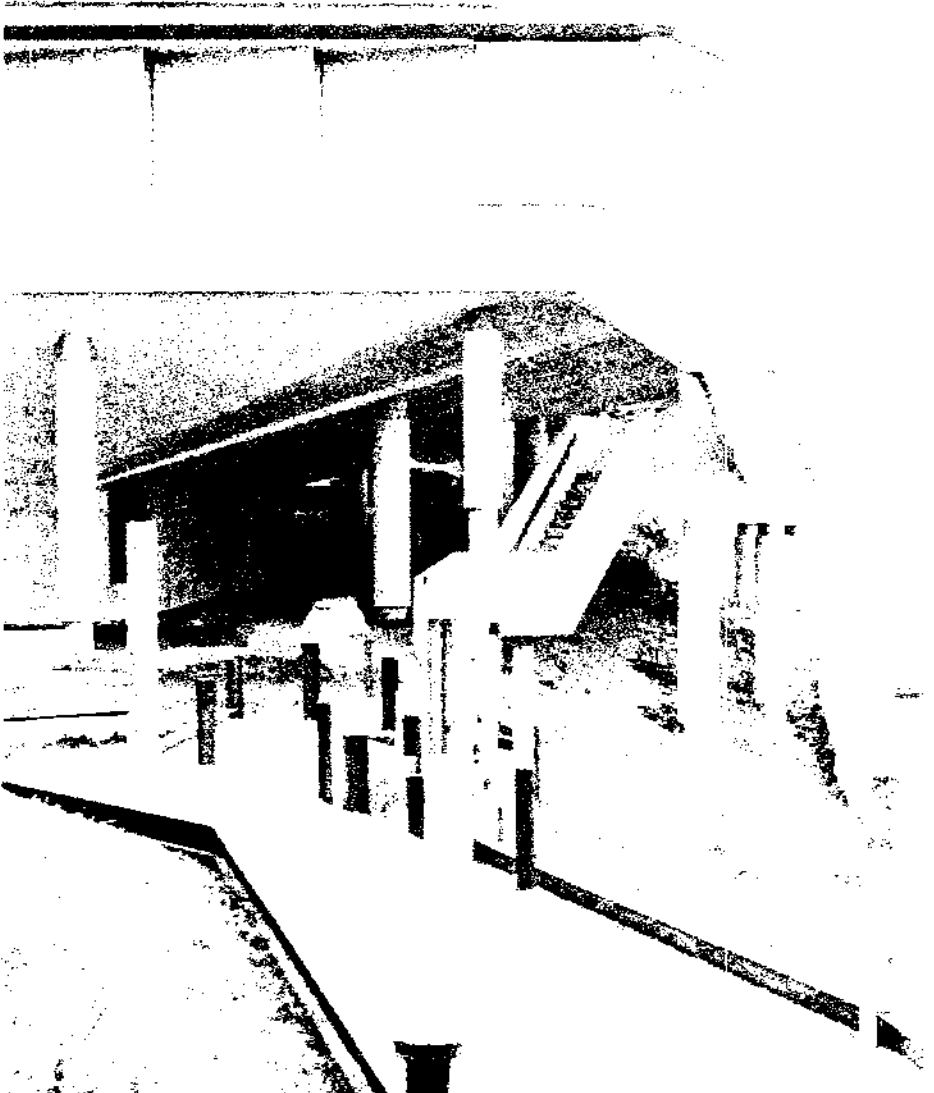
Department Chairs

Dr. Joyce Hammond	Anthropology
Dr. Ronald J. Taylor	Biology
Dr. Mark L. Wicholas	Chemistry
Dr. Larry S. Richardson	Communication
Dr. Larry D. Menninga	Computer Science
Dr. Richard K. Emerson	English
Dr. Rudolf Weiss	Foreign Languages & Literatures
Dr. Debnath Mookherjee	Geography & Regional Planning
Dr. Christopher A. Sucek	Geology
Dr. Donald W. Whisenhunt	History
Dr. Rosalie R. King	Home Economics
Carolyn J. Dale	Journalism
Dr. William Stoeber	Liberal Studies
Dr. Thomas T. Read	Mathematics
Dr. Phillip Montague	Philosophy
Dr. Ronald D. Riggins	P.E., Health/Recreation
Dr. Robert J. Quigley	Physics/ Astronomy
Dr. Kenneth R. Hoover	Political Science
Dr. Ronald A. Kleinknecht	Psychology
Dr. Carl H. Simpson	Sociology
Dr. Loren L. Webb	Speech Pathology/ Audiology
F. David Harris	Technology

Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this

catalog. For an exact scheduling of courses at Western, students should consult the annual *Timetable of Classes*, the Summer Bulletin and the University Extended Programs' bulletins.



American Cultural Studies

American cultural studies allows students to concentrate on the Americanization process, American character, American cultural institutions and/or American cultural values, particularly as these shape our concepts and choices of vocation.

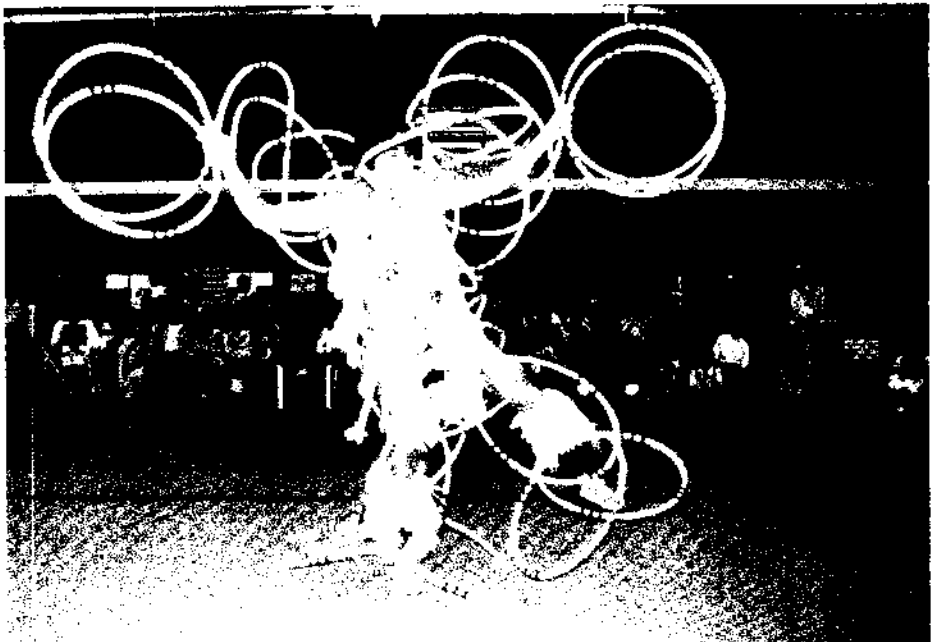
The program in American cultural studies serves those students and faculty who are interested in the study of such questions but find that important aspects of cultural institutions, cultural artifacts, and cultural values are not fully revealed by the course of study within a single department or college. The program allows students the opportunity to study issues especially arising from the cultural diversity in American society. Whenever possible, the program takes advantage of the rich curricular offerings of the various departments and colleges of the University.

Students who want a liberal arts education of breadth as well as depth will find that, because of its flexibility, the program adapts well to their needs. It offers suitable undergraduate background for advanced study in law, public service, government service or education, and for graduate work in American studies and ethnic studies. It also offers unique ways to combine the study of the humanities and social sciences.

For further information and advisement about the program contact the director of the program, Lawrence Estrada, Old Main 285.

BACHELOR OF ARTS

Major — American Cultural Studies 70 credits



American Cultural Studies

General Requirements

32-37 credits

- Two courses from the social sciences, selected under advisement from Anth 201; Soc 101; Pol Sci 101 or 250; Hist 360; Geog 201; AmSt 203 or 205
- One course from Hist 367 or 450
- Two courses from Eng 317, 318, 319, 327
- Art Hist 360 or 460 (plus prerequisites); or Music 202
- AmSt 301

Individualized Program of Study

33-38 credits

A program formulated by the student, a member of the faculty, and the director of the program and approved by the American studies faculty advisory committee. No program of study may substantially duplicate an existing departmental or college program. Ordinarily, the final approval of the student's course of study must be granted before the student reaches senior status.

The student may propose a broad, general program in American cultural studies, or focus on one major aspect of national cultural as, for example ethnic studies, myth and folklore or Pacific Northwest studies. In any case, the proposed program must include substantial upper-division work in at least two curricular units of the University. These may include Fairhaven or Huxley colleges.

The faculty recommends that students use a minor to develop special career interests (see, for example, the teaching endorsement), or to develop additional depth in one of the traditional academic disciplines or programs of the University.

Minor — American Cultural Studies

25 credits

Required Courses 20 credits

- AmSt 203 or 205

- AmSt 301
- Eng 318, 319
- Hist 367

Related Courses 5 credits

- Additional credits to be selected under advisement

Teaching Endorsement

Completion of the major in American cultural studies together with the program requirements for social studies education, secondary, can lead to endorsement in social studies at the secondary level. See the Social Studies Education Program section of this catalog.

Students considering this option should first confer with the director of this program.

COURSES IN AMERICAN CULTURAL STUDIES

Courses numbered X37; X97; 300, 400, 417, 445 are described on pages 38-39 of this catalog.

203 THE HISPANO/A-AMERICAN EXPERIENCE (3)

The development of the Hispano/a-American community, with emphasis on its history, its social and political institutions and the effects of education, continuing immigration and economic stratification.

205 THE ASIAN-AMERICAN EXPERIENCE (3)

The history of Asians in the United States, the development of communities and the effects of the encounter between Asian cultures and the developing American cultural context.

301 COMPARATIVE CULTURAL STUDIES (4)

Prereq: introductory level course in history, sociology, anthropology or equivalent. The interaction of immigrant and indigenous cultures with the developing American cultural patterns. Emphasis upon models and concepts of interaction, especially related to Blacks, native Americans, Asians and Latinos.

499 SPECIAL PROBLEMS (4)

Prereq: AmSt 301 and senior status. A research or field project designed to demonstrate the student's competence in working with the tools of the discipline. An approved AmSt 4+7 seminar may substitute for AmSt 499.

Anthropology

Anthropology is that discipline which studies humankind in the widest perspective—its physical development, development through time, and the diversity of lifestyles people have created. Anthropology attempts to make generalizations about human nature, group life and culture. To achieve these goals, the anthropologist does fieldwork and comparative cross-cultural studies in time and space.

Anthropology shares techniques and methods with other behavioral sciences and also draws upon physical and biological sciences. Unlike other behavioral sciences, which deal primarily with the Western World, anthropology includes the broadest human context. Thus, anthropology provides theoretical and empirical bases for development of hypotheses about human behavior and for testing the limitations of such hypotheses.

Anthropology is divided into subdisciplines.

1. Archaeology investigates past human societies and the processes and effects of cultural evolution through the study of material remains.
2. Physical anthropology focuses on anatomical, physiological and genetic differences in past and contemporary human populations.
3. Anthropological linguistics investigates the interrelationships between human culture and language with special focus on unwritten languages, emphasizing the diversity of world languages and non-verbal human communication.
4. Cultural anthropology does fieldwork and attempts to describe each culture in its own perspective. On the basis of this experience, the study of hundreds of other field reports, and

other information, the cultural anthropologist does cross-cultural comparisons to test generalizations about human behavior.

Utilizing ethnographic, ethnological and ethnohistorical tools as well as information supplied by these subdisciplines, the anthropologist does comparative studies of cultures and of the processes of human development.

The Anthropology Department provides training in all of these areas.

Opportunities for fieldwork and library research are available in all areas and for advanced research leading to the master's degree in all areas. Archaeological surveys and excavations are conducted most summers. The department engages in a series of funded ethnohistorical projects, providing a wide diversity of research opportunities. Library holdings include the complete Human Relations Area File for those pursuing cross-cultural and culture-area research. Linguistic specializations available include languages of South Asia, East Asia and the Northwest Coast.

Degrees offered are the B.A. and the B.A. in Education. In addition a combined Anthropology/Biology major is offered.

Careers for graduates in anthropology exist in both the public and private sectors of the economy and are increasing. Opportunities may be found in teaching (public school, community college and college), federal and state agencies, social services, applied health settings and museums.

ANTHROPOLOGY FACULTY

JOYCE HAMMOND, (1984) Chair.

Associate Professor. BA, MA, Brown University; PhD, University of Illinois.

Anthropology

- DANIEL L. BOXBERGER (1983) Associate Professor. BA, The Evergreen State College; MA, Western Washington University; PhD, University of British Columbia.
- SARAH K. CAMPBELL (1988) Assistant Professor. BA, Indiana University; MA, PhD, University of Washington.
- LINDA AMY KIMBALL (1976) Associate Professor. BSEd, MA, PhD, Ohio State University.
- JAMES LOUCKY (1989) Assistant Professor. BA, Haverford College; MA, PhD, University of California, Los Angeles.
- ROBERT C. MARSHALL (1985) Associate Professor. BA, Youngstown State University; PhD, University of Pittsburgh.
- JOAN C. STEVENSON (1979) Associate Professor. BA, University of Washington; MA, PhD, University of Wisconsin-Milwaukee.

BACHELOR OF ARTS

Major — Anthropology

65 credits

- Anth 201
- At least one course each in physical anthropology, archaeology, and linguistics (Linguistics 201 may be substituted for an anthropological linguistics course)
- Anth 301
- Anth 335, or another basic statistics course under departmental advisement
- Anth 470 or 471 or 427 (where appropriate an internship, practicum, or archaeological methods course may be substituted under advisement)
- At least 5 credits from the following: Anth 330, 351, 353, 424, 429, 430, 480, 481, 482, 484
- At least 5 credits from the following: Anth 361, 362, 364, 365, 425, 462, 463, 464, 465

Student selection of a complementary minor under advisement is strongly recommended.

Archaeology Concentration

77 credits

This concentration is intended for students who plan to do professional work or enroll in a graduate program in archaeology.

- Anthropology major requirements as noted under major requirements
- Anth 210
- Two from the following courses: Anth 308, 310, 314
- Two from the following courses: Anth 406, 409, 410
- Anth 312, 420 and 428 strongly recommended
- Elective credits in anthropology to complete the 65 credit anthropology major requirement
- 12 credits of supporting courses in the sciences or mathematics selected under advisement. Strongly recommended courses include: Geol 310, 413; Geog 351, 352, 354, 356, 432, 456

Minor

25 credits

- Anth 201 and either 102, 210 or 215
- Electives under departmental advisement

Combined Major — Anthropology/Biology

85 credits including 20 in supporting courses

This major will provide interested students the opportunity to study in two disciplines related through human biology.

- Anth 201, 210, 215
- 10 credits in anthropology under advisement
- Biol 121, 122, 123, 348, 349, 370, 490
- Biol 340 or Anth 335
- Chem 121, 122, 123 and either 251 or the 351, 352, 353 sequence
- Recommended elective courses: Biol 325, 465, 469, and 485; Anth 420, 423, 424, any "Peoples" courses relevant to the student interests, and additional courses under advisement

**BACHELOR OF ARTS IN
EDUCATION
— ELEMENTARY OR
SECONDARY EDUCATION**

Major — Anthropology

45 credits

- Anth 201, 210 and 215
- Anth 481 strongly recommended
- Electives under departmental advisement:
At least one course from each of the following groups:
— Cultural area courses: Anth 361, 362, 364, 462
— Topical cultural anthropology courses: Anth 247, 330, 348, 351, 353

Students in Elementary Education must also complete the Elementary Education professional program. Completion of this major program for elementary education studies leads to a supporting endorsement in anthropology.

Students in Secondary Education must also complete the specific program requirements for Social Studies Education, including the Social Studies minor. See the Social Studies Education Program section of this catalog. Completion of this major/-minor program leads to a teaching endorsement in anthropology and in social studies.

GRADUATE STUDY

For a concentration leading to the Master of Arts degree, see the Graduate School section of this catalog.

**COURSES IN
ANTHROPOLOGY**

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 102 INTRODUCTION TO HUMAN ORIGINS (5)
Description of scientific evidence for the evolution of the human lineage from its primitive primate ancestors to the origins of civilization. Emphasis on analytical methods employed to reconstruct history from fossils, geological context and cultural remains.
- 201 INTRODUCTION TO CULTURAL ANTHROPOLOGY (5)
The study of societies that contrast with Western civilization, leading to an acquaintance with the concept of culture and its importance to an understanding of human behavior. Emphasis will be placed upon understanding each culture from its own point of view rather than our own.
- 210 INTRODUCTION TO ARCHAEOLOGY (5)
The historical roots and current goals of archaeology. Principles of archaeological inference, including formation of the archaeological record, data collection and analysis, and interpretive frameworks.
- 215 INTRODUCTORY BIOLOGICAL ANTHROPOLOGY (5)
The biological side of anthropology; human osteology, primate paleontology, human variation, human evolution and primate behavior.
- 247 LANGUAGE IN CULTURE AND SOCIETY (3)
Prereq: Anth 201. Analysis of situational varieties of language level and vocabulary; social processes of language change; semantics and world-view; speech communities.
- 301 DEVELOPMENT OF ANTHROPOLOGY (5)
Prereq: Anth 201. The development of anthropology with emphasis on the period beginning with L.H. Morgan and E.B. Tylor.
- 308 HUNTER-GATHERER SOCIETIES IN WORLD PREHISTORY (4)
Prereq: Anth 102, 201 or 210. The archaeological remains of hunting-gathering groups from early hominids to modern times interpreted in terms of evolution of adaptive strategies. Relationship to agriculture as an adaptive strategy will be emphasized. Contributions of studies of modern hunter-gatherer groups will be discussed.

Anthropology

- 310 THE RISE OF CIVILIZATIONS (4)
Prereq: Anth 102, 201, or 210. Village agricultural societies as revealed by archaeology; crystallization of village farming societies into urban civilizations in the Near East, Egypt, India, China and New World parallel developments.
- 312 FIELD COURSE IN ARCHAEOLOGY (12)
Prereq: Anth 102, 201, or 210 or equivalent and permission of instructor. On-site training in methods and techniques of archaeological survey and excavation.
- 314 ARCHAEOLOGY OF NORTH AMERICA (5)
Prereq: Anth 102, 201, or 210. Origins of PaleoIndians of North America, their paleoenvironments and the cultural sequences leading to the historic peoples of the New World north of Panama. Mesoamerican and Mississippian cultures, those of the Southwest and the Woodland Archaic are examined.
- 330 RELIGION AND CULTURE (5)
Prereq: Anth 201. Comparative study of religious thought, belief, and behavior, relationship of religious experience and institutions to other aspects of culture and society.
- 335 QUANTITATIVE METHODS IN ANTHROPOLOGY (5)
Prereq: Anth 201 and 10 additional credits in anthropology. Mathematics and statistics as applied to anthropological problems
- 348 ANTHROPOLOGICAL LINGUISTICS (3)
Prereq: Anth 201. Language and other forms of communication. Traditions of spoken and written languages. Introduction to phonology, morphology and syntax. The role of language in anthropological fieldwork.
- 351 FAMILY AND KINSHIP ORGANIZATION (5)
Prereq: Anth 201. Cross-cultural study of family types and the definition of social roles through kinship organization.
- 353 SEX AND GENDER IN CULTURE (4)
Prereq: Anth 201. Examination of the concepts of sex and gender as they are applied cross-culturally.
- 355 MYTH AND RITUAL (3)
Prereq: Anth 201. Critical analysis of theories of symbolic form and function in culture as embodied in myth and ritual. Emphasis on the structural analysis of symbols developed by Claude Lévi-Strauss and his emendators.
- 361 INDIANS OF NORTH AMERICA (5)
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 362 PEOPLES OF ASIA (5)
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 364 PEOPLES OF THE PACIFIC (5)
Prereq: Anth 201. Ethnographic survey of the peoples and cultures.
- 365 PEOPLES OF LATIN AMERICA (5)
Prereq: Anth 201. Ethnographic survey of the peoples and cultures
- 406 ARCHAEOLOGICAL METHOD AND THEORY (5)
Prereq: Anth 210 or 301 and 5 additional credits in archaeology. History of theory and method in North American archaeology and the legacy of earlier goals. Current goals and the development of appropriate theory, method, and empirical applications.
- 409 ARCHAEOLOGICAL FIELD METHODS: PLANNING AND DESIGN (3)
Prereq: Anth 210 and 312 or senior status. Design of archaeological data collection strategies including sampling, systematic regional survey, systematic surface collection, remote sensing and excavation. Field experience in non-destructive survey methods.
- 410 ARCHAEOLOGICAL ANALYSIS AND INTERPRETATION (5)
Prereq: Anth 102, 201, or 210 and 10 credits in anthropology at the 300 level. Archaeological laboratory methods; artifact identification, classification, measurement, map reproduction, soil and feature profiles, use of photographs and other graphic methods.
- 411 ARCHAEOLOGY OF NORTHWESTERN NORTH AMERICA (3)
Prereq: 10 credits in anthropology including Anth 210 or equivalent. The prehistoric archaeology of the Northwest Coast and Plateaus, current explorations and interpretations in a context of paleoenvironmental and ethnohistorical evidence.
- 420 HUMAN OSTEOLOGY AND FORENSIC ANTHROPOLOGY (5)
Prereq: 10 credits in anthropology or one year's experience in law enforcement and permission of instructor. After learning the human skeleton the student will be trained in techniques for recovery of the body, reconstruction of the body's history (age, sex, race, etc.) and how to aid the crime investigator.

- 423 **HUMAN EVOLUTION (5)**
 Prereq: Anth 102 or 215 and a 300-level course in anthropology, biology or geology. Detailed exploration of the fossil record leading to modern humans.
- 424 **MEDICAL ANTHROPOLOGY (5)**
 Prereq: Anth 201. Introduction to an area where biological and cultural anthropology interface. Includes health and disease in evolution, the relationships between disease and world view, the healer and the cultural milieu, and comparative studies of healing practices.
- 425 **CULTURE AND SOCIETY OF JAPAN (3)**
 Prereq: Anth 201. Overview of Japanese culture and society, its prehistory and historic formation, emphasizing contemporary social organization and social relations in urban and rural society. Examines Japan's solutions to the problems of modern industrial society.
- 427 **ETHNOHISTORY: RESEARCH AND ANALYSIS (3)**
 Prereq: Anth 201 and 301. Reconstruction of the past of human groups through the utilization of primary written sources and cognate archival materials. Particular attention is paid to ethnohistory as a check upon and a complement to the archaeological and ethnological records. Emphasis shall normally be placed upon Northwest aboriginal materials.
- 428 **CULTURAL RESOURCE MANAGEMENT (4)**
 Prereq: at least 10 credits from the 300-level course offerings in anthropology, history and/or environmental studies. Introduction to the field of cultural resource management including historic preservation, archaeological resource management, cultural resource management for subsistence and spiritual practices. Background on legislation and current practices, review of case studies and experience with actual projects.
- 429 **POLITICAL ANTHROPOLOGY (3)**
 Prereq: Anth 201. Political anthropology examines how collective action is possible in societies without centralized authority. It considers problems of order, action and representation in non-state societies, and the question of the origins and spread of state societies.
- 430 **ECONOMIC ANTHROPOLOGY (3)**
 Prereq: Anth 201. Comparative analysis of production, distribution and consumption in preindustrial and peasant societies. Emphasis on relations of economic sphere to other aspects of society and problems of development in the postcolonial world.
- 448 **INTERMEDIATE ANTHROPOLOGICAL LINGUISTICS (3)**
 Prereq: Anth 348. Detailed examination of further topics in anthropological linguistics, including language universals, language acquisition, world language and script patterns, and ethnosemantics.
- 453 **ROLES OF WOMEN IN CROSS-CULTURAL PERSPECTIVE (4)**
 Prereq: Anth 201. An ethnographic survey of women's economic, social, religious, political and domestic roles. Current theoretical perspectives and the significance of biological, technoenvironmental and symbolic factors in determining women's roles will be emphasized.
- 462 **INDIANS OF THE NORTHWEST COAST (3)**
 Prereq: Anth 201 and 361. Tribal distributions, social organization, and ecological adjustment with emphasis on the Indians of Western Washington; problems of adjustment to the modern world.
- 463 **PEOPLES OF SOUTH AND SOUTHEAST ASIA (3)**
 Prereq: Anth 201. A survey of cultures on the Indian sub-continent, Mainland and Insular Southeast Asia. Emphasis on special topics, including ecology, pre-history, and selected cultural groups. Readings focus on original monographs.
- 464 **PEOPLES OF EAST ASIA (3)**
 Prereq: Anth 201. Ethnographic in-depth study of the national and minority peoples of China (including Taiwan), Korea, and Japan with emphasis on their distinctive cultures and societal structure.
- 465 **PEOPLES OF MEXICO AND CENTRAL AMERICA (4)**
 Prereq: Anth 201. Overview of cultures and social relations in Mesoamerica, with an emphasis on indigenous and rural communities, subsistence and survival issues, and factors underlying political and economic change.
- 470 **MUSEOLOGY STUDIES (3-5)**
 Prereq: 40 credits in anthropology and permission of instructor. Internship at the Whatcom Museum of History and Art under the direction of a designated faculty member with a museum staff person. Students select an area of museum specialization and may work with ethnographic, archaeological or historic materials. Repeatable to 10 credits.

Anthropology

- 471 **FIELDWORK METHODS IN CULTURAL ANTHROPOLOGY (5)**
Prereq: 15 credits in anthropology. The anthropologist as fieldworker; overview of the techniques and methods of ethnographic fieldwork. Students will gain fieldwork experience through small ethnographic projects.
- 480 **APPLIED ANTHROPOLOGY (4)**
Prereq: Anth 201. Use of anthropology to solve human problems; examines ethics, interventions and policy applications regarding contemporary social issues.
- 481 **CHILDHOOD AND CULTURE (4)**
Prereq: Anth 201 and upper-division status. The process of socialization or enculturation viewed from a cross-cultural perspective.
- 482 **PSYCHOLOGICAL ANTHROPOLOGY (4)**
Prereq: Anth 201 or permission of instructor. Examination of interface of culture and human behavior as revealed in socialization, expressive behavior, mental health, conflict and social change.
- 484 **CROSS-CULTURAL EDUCATION (4)**
Prereq: Anth 201 or permission of instructor. Comparative and anthropological study of educational issues. Examines learning in other cultures, home-school linkages, minority student achievement and multi-cultural curricula.
- 495 **TEACHING-LEARNING PROCESSES IN ANTHROPOLOGY (3)**
Prereq: 25 credits in anthropology and permission of instructor. Practicum as discussion leaders in anthropology courses. May be repeated once for departmental credit if taken from a different instructor.
- 502 **CONTEMPORARY THEORY IN ANTHROPOLOGY (5)**
Prereq: graduate status in the anthropology program or permission of instructor. Issues relating to contemporary orientation in cultural and social theory; examination of major writings and their implications.
- 503 **RESEARCH DESIGN AND METHOD (5)**
Prereq: graduate status in the anthropology program or permission of instructor. Analysis of major theoretical approaches: research methods and procedures; relationship of theory and method in formulating research problems.
- 506 **ARCHAEOLOGICAL METHOD AND THEORY (5)**
Prereq: graduate status in the anthropology program or permission of instructor. History of theory and method in North American archaeology and the legacy of earlier interpretive frameworks. Current goals of the discipline and the development of appropriate theory, method and empirical applications.
- 520 **HUMAN OSTEOLOGY (5)**
Prereq: graduate status in the anthropology program or permission of instructor. Advanced study of human osteology. The latest methods in reconstruction of the individual will be taught.
- 523 **SEMINAR: NEW WORLD PREHISTORY (3)**
Prereq: graduate status in the anthropology program or permission of instructor. Advanced theoretical topics in New World pre-history.
- 525 **PRIMATE EVOLUTION (5)**
Prereq: graduate status in the anthropology program or permission of instructor. Advanced study of primate paleontology. Each student will be expected to become expert on some aspect of the fossil record.
- 527 **SEMINAR IN ETHNOHISTORY (3)**
Prereq: graduate status in the anthropology program or permission of instructor. Reconstruction of the past of human groups with particular attention to ethnohistory and its relation to archaeological and ethnological records. Emphasis on Northwest aboriginal groups.
- 529 **POLITICAL ANTHROPOLOGY (3)**
Prereq: graduate status in the anthropology program or permission of instructor. Advanced cross-cultural examination of the principles on which order is legitimated to experience an analysis of circumstances under which it is not to include societies with and without agencies monopolizing intrasocietal violence.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 **HISTORY OF ANTHROPOLOGY (5)**
Prereq: graduate status in the anthropology program or permission of instructor. Development of principal theoretical orientations and methods in the cultural and historical setting; development of anthropology as a discipline.

531 ECONOMIC ANTHROPOLOGY (3)

Prereq: graduate status in the anthropology program or permission of instructor. Advanced analysis of production, distribution and consumption in preindustrial and peasant societies. Emphasis on relations of economic sphere to other aspects of society and problems of development in post-colonial world.

532 COMPARATIVE SOCIAL ORGANIZATION (3)

Prereq: graduate status in the anthropology program or permission of instructor. The study of the various ways in which people group themselves; the structure of roles, the recruitment and assignment of roles and status within groups, leadership and the legitimization of authority, and the relationships among groups. The sanctions governing relationships: gossip, ridicule, isolation and formal "legalistic."

535 PUBLIC ARCHAEOLOGY PRACTICUM (5)

Prereq: graduate status in the anthropology program or permission of instructor. Practical experience in planning and executing cultural resources management projects including development of proposal, budget and logistical plans. Professional accountability and cooperation will be emphasized through teamwork, peer review, and interaction with governmental agencies and public groups.

540 ANTHROPOLOGICAL LINGUISTICS (3)

Prereq: graduate status in the anthropology program or permission of instructor. Language and ethnography; the differential relationships existing between the lexicon and the grammar of languages and their speakers' respective cultures, societies and world view.

553 SEMINAR IN WOMEN'S ROLES (4)

Prereq: graduate status in the anthropology program or permission of instructor. Advanced study of women's statuses/roles in selected cultures. Assessment of various explanatory models.

571 FIELDWORK METHODS IN CULTURAL ANTHROPOLOGY (5)

Prereq: graduate status in the anthropology program or permission of instructor. The advanced study of ethnographic fieldwork methods through exercises in class and a major fieldwork project in the community. Discussion of topics including the anthropologist as fieldworker and the ethics of fieldwork. Students will make a special presentation to the class.

580 APPLIED ANTHROPOLOGY (5)

Prereq: graduate status in the anthropology program or permission of instructor. Advanced investigation of the use of anthropology to solve human problems; examines ethics, interventions and policy applications regarding contemporary social issues.

581 CHILDHOOD AND CULTURE (4)

Prereq: graduate status in the anthropology program or permission of instructor. Advanced cultural analysis of the process of socialization, child welfare and policy relating to children.

690 THESIS (1-12)

Prereq: formal advancement to candidacy for the M.A. in anthropology. S/U grading.



Biology

Biology — the study of life — includes a broad spectrum of exciting subjects. Microbiology, ecology, environmental science, systematic biology, genetics, marine biology, biometry, cell and molecular biology, botany, entomology, zoology, science education, animal and plant physiology and anatomy are some of the specialties to be found in Western's department. Many of our students prepare for professional careers in biology, the health sciences or for teaching in the public schools and community colleges. And a growing number of students select a degree program in biology just because they find it a fascinating area of study even though they may not plan to pursue a career in biology. Biology is a valuable second major which enhances employment opportunities. The department offers courses, majors and minors encompassing these and other possibilities.

MAJOR CONCENTRATIONS IN BIOLOGY

Professional career opportunities in biology are very diverse, and many of them require education beyond the baccalaureate degree. Medicine, oceanography, environmental law, fisheries, forest biology, veterinary medicine, sanitary engineering, and specialties in medical and dental technology involve additional studies after graduation from Western. Students interested in one of these professional careers normally complete one of the major concentrations (basic biology, ecology, marine biology) leading to the Bachelor of Science degree.

In addition to a strong core of basic biology, the B.S. degree includes supporting courses in the physical sciences and mathematics and is therefore recommended for those who wish to continue post-

baccalaureate studies in the biological sciences or to teach in secondary schools and community colleges.

For those who wish to become certified to teach biology, a Bachelor of Science is now considered to be the appropriate degree. Science students who wish to apply for admission to medical or dental schools should consider the Biology B.S. major or the Bachelor of Science Cellular and Molecular Biology/Biochemistry major.

The Biology/Mathematics combined major is offered for those students interested in quantitative biology, statistics, biometry, ecology and computer modeling of biological systems. The B.S. degree in molecular/cellular biology is designed for students who wish to pursue graduate study in molecular biology, biochemistry, or medicine. Finally a combined major (B.A.) is available in Biology/Anthropology for students whose interest spans these two disciplines.

Students who are interested in biology or one of its component specialties, but not directly interested in teaching or other specific professional careers, may wish to combine biology with an area such as history or political science. Combinations of this sort are particularly valuable to those interested in environmental science. Happily, there are many students who simply want to make the science of life the focus of a liberal education. These students are encouraged to consider the Bachelor of Arts degree in which the number of required courses has been kept low to permit students to select areas of study and courses suited to their individual needs and interests. Programs one might design under this major include combinations of biology with another discipline such as art, economics, philosophy, physical education, psychology, political

science or speech.

The Biology Department maintains a program of advisement; students interested in any major or pre-professional program in biology should consult the undergraduate advisement coordinator, Dr. Gerald Kraft, as early in their university careers as possible. Early advisement will ensure appropriateness and proper sequence of courses. All biology majors must declare the major, and have it so signed in the bluebook by Dr. Gerald Kraft, no later than one year before the bluebook is approved for senior evaluation by the department chairperson.

TEACHING CAREERS IN BIOLOGY

Many of Western's students are interested in careers in teaching. To be effective in teaching biology, one must also have a solid foundation in the other sciences. Thus, those interested in teaching in the secondary schools are urged to complete a B.S. (biology emphasis) including Science Education 491 and 492 as well as the professional education sequence (see Education). The state of Washington requires certification in two endorsement areas. By completing Geology 211 and 212 students will receive an additional endorsement in general science called "science" on the Washington endorsement list. The professional education courses may be included as electives in the baccalaureate program or may be taken during a post-baccalaureate year, part of which may be applied to the fifth-year requirement for standard certification. Students entering this program are urged to seek departmental advisement as soon as possible.

Those who wish endorsements in biology and chemistry should consider the B.A. in Education program in biology/chemistry.

Students planning to teach at the college level are advised to complete a

B.S. (Biology) and graduate work leading to a master's or doctoral degree.

Students who wish to teach at the elementary or intermediate levels are advised to take the general science major. See the Science Education Program section of this catalog.

BIOLOGY FACILITIES

The Biology Department is housed in Haggard Hall and shares space in the Environmental Studies Center. Our teaching and research laboratories are adequate and well-equipped. The department frequently uses the facilities of the Sundquist Marine Laboratory at Shannon Point near Anacortes. This laboratory is an important focus of our strong program in marine biology. The Science Education Center and the Computer Center also serve in support of special program areas. Learning by doing is a primary teaching mode in Western's Biology Department. Very often we find ourselves involved in open-ended laboratory or field projects. Our cell-tissue culture lab has attracted a number of students interested in modern techniques so important in research and industry. The beautiful nearby Cascades, and rich diversity of the marine habitats at our doorstep invite frequent class and individual projects focusing on the organismal and ecological aspects of biology, and the essential intricacy of our environment.

BIOLOGY FACULTY

- RONALD J. TAYLOR (1964) Chair.
Professor. BS, Idaho State College; MS, University of Wyoming; PhD, Washington State University.
- HERBERT A. BROWN (1967) Professor. BA, University of California, Los Angeles; PhD, University of California, Riverside.
- RICHARD W. FONDA (1968) Professor. BA, Duke University; MS, PhD, University of Illinois.
- HUBERTUS E. KOHN (1966) Professor. PhD, University of Innsbruck, Austria.

Biology

- GERALD F. KRAFT (1961) Associate Professor. BA, San Jose State College; MS, Washington State University; PhD, Oregon State University.
- GISELE MULLER-PARKER (1990) Assistant Professor. BS, State University of New York at Stony Brook; MS, University of Delaware; PhD, University of California, LA.
- JAL S. PARAKH (1966) Professor. BS, Osmania University, India; MS, University of Florida; PhD, Cornell University.
- EMILY R. PEELE (1990) Assistant Professor. BA, University of North Carolina, Greensboro; MSPH, University of North Carolina, Chapel Hill; PhD University of Georgia.
- MERIBETH M. RIFFEY (1957) Associate Professor. BS, MS, Northwestern University; PhD, Washington State University.
- JUNE R. P. ROSS (1967) Professor. BSc, PhD, DSc, University of Sydney, Sydney, Australia.
- DAVID E. SCHNEIDER (1966) Associate Professor. BS, Bates College; PhD, Duke University.
- CLYDE M. SENGER (1963) Professor. BA, Reed College; MS, Purdue University; PhD, Utah State University.
- IRWIN L. SLESNICK (1963) Professor. AB, BS, Bowling Green State University; MS, University of Michigan; PhD, Ohio State University.
- CAROL TRENT (1989) Assistant Professor. BS, Indiana University; PhD, Massachusetts Institute of Technology.
- DON C. WILLIAMS (1968) Professor. BA, Chico State College; MA, PhD, University of California, Davis.

Research Associates

- Stephen Nyman
BA, MS, Rutgers University; PhD, University of Rhode Island
- Frederick M. Rhoades
BA, Swarthmore; MS, Oregon State University; PhD, University of Oregon

Adjunct Faculty

- Stephen Sulkin
AB, Miami University; MS, PhD, Duke University

BACHELOR OF ARTS

Major — Biology

50 credits plus supporting courses

Basic biology emphasis

- Biol 121, 123, 210, 211, 212
- Additional upper-division biology courses to total 50 credits

selected with approval of major adviser

- Supporting courses: Chem 115, 251, Chem 371 (or Biol 323)

(G. F. Kraft, adviser)

Cooperative Major — Forest Biology (BA/MS)

Students may earn a BA degree in biology at WWU and an MS degree in Forest and Range Management at Washington State University through this special five-year program. Contact the program adviser, Dr. H. Kohn, for information on specific course requirements, options and conditions.

Course Requirements at WWU:

- Biology courses: Biol 121, 123; 210, 211 (212 recommended); 325, 340, 452, 479
- Supporting courses: Chem 121, 122, 123, 251; Geol 211; Math 124; Comp Sci 110; Eng 101, 301; Econ 206, 207; GUR requirements

Course Requirements at WSU:

- FRM 302, 304, 311, 312, 320, 330
- FRM 348 or 351 or 371
- FRM 411, 412
- Soils 201, 316

Combined Major — Biology/Anthropology

85 credits including 20 in supporting courses

- Biol 121, 122, 123, 348, 349, 370, 490
- Biol 340 or Anth 335
- Anth 201, 210, 215
- 10 credits in anthropology under advisement
- Chem 121, 122, 123 and 251 (or 351, 352, 353)
- Recommended elective courses: Biol 325, 465, 469, and 485; Anth 420, 423, 424, any "Peoples" courses relevant to the student interests

(J. Stevenson, Anthropology, and Herbert Brown, Biology, advisers)

BACHELOR OF ARTS IN EDUCATION

Combined Major — Biology/Chemistry

111-112 credits

- Chem 121, 122, 123, 333
- Option a: Chem 251, 461, 462, and Chem 371 or Biol 323
- Option b: Chem 351, 352, 353, 354, 471, 472, and 473 or 474
- Biol 121, 123, 210, 211, 212, 321, 325, 490
- Biol 485
- Sci Ed 491 and 492
- Math 124, 125 (for Option a)
- Physics 114, 115, 116 (or 121, 122, 123, 125)

(I. Slesnick, adviser)

NOTE: This major meets the requirements for Washington state teaching endorsements in both biology and chemistry. Depending upon options chosen, the overall student program may involve more than 180 credits.

Teaching Endorsement

Recommendations for teaching endorsement with the chemistry-biology major concentration normally require completion of the program with a grade point average of 2.75 or better in the chemistry and in the biology courses.

BACHELOR OF SCIENCE

Pre-professional program for professional biologists, students pursuing graduate work, secondary teachers and related specialties.

Major — Biology 110 credits

- Biol 121, 123, 210, 211, 212, 321, 323 (or Chem 471, 472), 325, 340, 474, 485, 490
- Chem 121, 122, 123, 251 (or 351, 352 and 353)
- Math 124
- Physics 114, 115, 116 (or 121, 122, 123, 125)
- Teacher preparation only Sci Ed

491 and 492, Geol 211 and 212 in place of Biol 485

- Electives to be taken from biology, chemistry, computer science, geography, geology, mathematics, physics and environmental studies selected with approval of departmental adviser

(G. F. Kraft, adviser)

Major — Watershed Studies

110 credits

This program is under review with an emphasis on wetlands ecology.

Background preparation

- Biol 121, 123, 210, 211, 212
- Chem 121, 122, 123, 351, 352, 353
- Math 124
- Geol 211

Ecology Core

- Biol 325, 340
- Envr 361 or Chem 333
- Biol 402 or Envr 430a,b
- Envr 429
- Geol 472

Twenty credits of electives to be selected from one or more of the following topic areas:

Watershed Processes

- Envr 438, 439, 446
- Geol 310, 473
- Geog 331, 431, 456
- Math 125

Environmental Chemistry

- Envr 456, 462
- Geol 461
- Math 125

Ecology

- Envr 421a,b, 431a,b
- Biol 403 or 479, 404, 407
- Biol 452, 456, 462, 490
- Math 125

(G. F. Kraft, Biology, adviser)

Biology

Interdisciplinary Major — Cellular and Molecular Biology/ Biochemistry

For biochemistry emphasis, see the Chemistry Department section of this catalog.

Cellular and molecular biology emphasis 110 credits

- Biol 121, 123, 211, 212, 321, 322, 340, 345, 470, 471, 472, 473, 474, 475
- Chem 121, 122, 123, 333, 351, 352, 353, 354
- Math 124, 125
- Physics 121, 122, 123, 125

This program is specifically designed for students who seek employment or graduate study in cellular biology, molecular biology, or biochemistry.

(D. Williams, adviser)

Combined Major — Biology/ Mathematics 110 credits

- Biol 121, 123, 210, 211, 212, 321, 323, 325
- Biol 473 or 490
- Math 124, 125, 204, 331, 341, 342; plus 13 credits in mathematics under advisement; Comp Sci 210, 439
- Chem 115, 251
- Physics 121, 122, 123, 125 (or Math/Comp Sci 335)

(C. Senger, adviser)

COOPERATIVE BIOLOGY/ ECOLOGY PROGRAMS

Western is the only four-year university on the West Coast that has natural habitats ranging from salt water to alpine within a one-hour drive of campus. Within this region are three national parks, three national forests, hundreds of miles of shoreline and numerous other natural features. The cooperative programs are designed to prepare students for graduate study or for field-oriented careers, taking advantage of "outdoor laboratories." Because of the complex

interactions in natural systems, these programs have a broad core requirement involving several disciplines. Students who choose to major in one of these programs can fulfill the requirements for a Bachelor of Science through the Department of Biology (see below) or through Huxley College.

Combined Major — Biology/ Huxley — Marine Biology

110 credits

- Biol 121, 123, 210, 211, 212, 321, 325, 340, 403, 406 (or Envr 321), 407 (or Envr 421a,b), 456, 461
- Chem 121, 122, 123, 251, 333 (or Envr 361)
- Physics 114, 115 (or 121, 122)
- Math 124
- Geol 211
- A quarter in residence at an approved marine laboratory
- Electives to total 110 credits: to be selected under advisement. Some suggested courses are Biol 323, 462, 490, Envr 430a,b, 431a,b, 446

(J. Ross and D. Schneider, advisers)

Combined Major — Biology/ Huxley — Terrestrial Ecology 119 credits

- Biol 121, 123, 210, 211, 212, 321, 325, 340, 403 or 479, 404, 452, 490
- Envr 431a,b, 437, 439
- Chem 121, 122, 123
- Chem 251 and Envr 361 or Chem 351, 352, 354
- Geol 211, 310
- Math 124
- Physics 114, 115 (or 121, 122)

(R. Fonda, adviser)

Minor — Biology 30 credits

- Biol 121, 123; 10 credits from Biol 210, 211, 212; 12 additional credits numbered 210 or higher.

The course requirements for a biology minor are different from those

stated here when coupled with certain academic majors. Students must consult their major department or the Biology Department for specific course requirements which will fulfill a biology minor accompanying their declared major.

At least 15 credits of biology must be taken at Western.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the Graduate School section of this catalog.

COURSES IN BIOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 101 **PRINCIPLES OF GENERAL BIOLOGY (4)**
Prereq: Math 102. Major ideas and processes of modern biological science at molecular, cellular, organismic and community levels; stressing qualitative and quantitative dimensions of the discipline in lecture, laboratory, field and discussion settings. Laboratory included.
- 121 **BIOLOGICAL DIVERSITY AND EVOLUTION (4)**
Prereq: Math 102. Evolutionary trends and processes; organismal variation exemplifying evolutionary lineages.
- 122 **BIOLOGY OF ORGANISMS (4)**
Prereq: Biol 101 or 121. Patterns of reproduction, development and tissue differentiation in selected groups of organisms; biological systems, e.g., nutrition, digestion, circulation, intraorganismal communication, etc., emphasizing integration and control of processes.
- 123 **CELLULAR AND MOLECULAR BIOLOGY (4)**
Prereq: Biol 121 recommended; course work in chemistry strongly recommended. The structure of biological molecules and macro-molecules; cell structure and organization; energy production and utilization; the synthesis of DNA and proteins.
- 201 **MUSHROOMS, MOLDS AND MOSSES (3)**
Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.
- 202 **FLOWERING PLANTS, CONIFERS AND FERNS (3)**
Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.
- 205 **MARINE BIOLOGY (3)**
Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.
- 210 **THE BIOLOGY OF LOWER ORGANISMS (5)**
Prereq: Biol 121 and 123. An introduction to the basic biology of bacteria, fungi, algae, lichens, protozoa and sponges with emphasis on ecological relationships of lower organisms to one another and to other organisms, their occurrence in nature, and the classification of organisms.
- 211 **PLANT BIOLOGY (5)**
Prereq: Biol 121 and 123. Basic physiological principles; evolutionary trends and adaptations in structural development and reproductive systems of higher plants—Bryophytes through Angiosperms.
- 212 **ANIMAL BIOLOGY (5)**
Prereq: Biol 121 and 123. A course that stresses the ways in which animals cope with the basic problems of survival: locomotion, nutrition and the utilization of food; integration of activities on both community and individual levels, reproduction and development.
- 223 **FOREIGN CHEMICALS AND NATURAL SYSTEMS (3)**
Prereq: one course from biology and chemistry. An elementary treatment of the effect and mechanism of action of such currently encountered substances as pesticides, food additives, hallucinogenic drugs, and conventional drugs (alcohol, tobacco and coffee).
- 305 **NATURAL HISTORY OF THE PUGET TROUGH (2)**
Prereq: Biol 101 or equivalent. Selected topics in the natural history of the land between the Cascade and Coast (Olympic) Mountains. Four Saturday workshops plus a project approved by the instructor. Offered only at Deering Wildflower Acres in Marysville. S/U grading.

Biology

- 308 **BIOLOGICAL ILLUSTRATION AND PHOTOGRAPHY (3)**
Prereq: 10 biology credits or permission of instructor. To acquaint the biology student with principles and techniques of illustration used in publication and display, using the media of pencil, ink, watercolor and photography. Intended for, but not restricted to, students without previous instruction in illustration.
- 321 **GENETICS (4)**
Prereq: Biol 121 and 123, plus 5 credits to be selected from Biol 210, 211, 212. Survey of classical, molecular and population genetics illustrated by prokaryotic and eukaryotic organisms such as bacteria, fungi, fruitflies, nematodes and humans.
- 322 **GENETICS LAB (2)**
Prereq: Biol 321 or concurrent. Experimental exploration of the fundamentals of eukaryotic and prokaryotic genetics using the nematode *Caenorhabditis elegans* and the bacterium *Escherichia coli*.
- 323 **CELLULAR, MOLECULAR AND DEVELOPMENTAL BIOLOGY (3)**
Prereq: 10 credits from Biol 210, 211, 212 or permission of instructor; Chem 251 or 351 and 352. Cell organelle structure and function, membrane phenomena, energy utilization and production, cellular biosyntheses, control of cellular activities, developmental processes at the cellular level.
- 325 **ECOLOGY (5)**
Prereq: 10 credits from Biol 210, 211, 212 or permission of instructor. Community energetics and organismal-environmental relationships in marine, fresh water and terrestrial habitats.
- 340 **BIOMETRICS (5)**
Prereq: 10 credits from Biol 210, 211, 212 or permission of instructor. The design of biological experiments and appropriate statistical analysis of experimental data. Calculator required. Also offered as Envr 340.
- 345 **FUNDAMENTALS OF MICROBIOLOGY (5)**
Prereq: Chem 122; one quarter of organic chemistry; 10 credits in biology. Comparative morphology, taxonomy, physiology and relationship of microbes, bacteria, yeasts, molds and viruses.
- 348.349 **HUMAN ANATOMY AND PHYSIOLOGY (5 ea)**
Prereq: Biol 101; Biol 348 prerequisite to 349. Structure and function of the human body; emphasis on physiological principles and homeostatic mechanisms.
- 370 **HUMAN GENETICS (4)**
Prereq: Biol 121 and 123. The basic principles of mendelian, molecular and population genetics as applied to humans. Includes special topics such as genetic screening and gene therapy.
- 384 **BIOLOGY AND SOCIETY (4)**
Prereq: Biol 101 or 121 and junior status. Recent developments in biology and their impact on the individual and on society, emphasis on potential effects on individual values and social implications of selected developments in such areas as behavior control, genetic alteration and organ replacement.
- 402 **BIOLOGICAL LIMNOLOGY (5)**
Prereq: Biol 325. Physical and chemical characteristics of fresh water in relation to biotic communities. Field trips.
- 403 **PHYSIOLOGICAL ECOLOGY OF ANIMALS (5)**
Prereq: Biol 212 and 325. Physiological and biochemical adaptations of animals to environmental factors. Marine environments are emphasized, but adaptations to fresh water and terrestrial conditions also are considered. Laboratories introduce research techniques which are then applied in student-designed independent research projects.
- 404 **PLANT ECOLOGY (5)**
Prereq: Biol 211, 325. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Weekend field trips included.
- 406 **GENERAL OCEANOGRAPHY (5)**
Prereq: one year each of college chemistry and biology; Physics 114. Introduction to chemical, physical, geological and biological oceanographic subdisciplines. Sampling methods and analytical techniques applied to local marine areas.
- 407 **MARINE ECOLOGY (5)**
Prereq: Biol 325 (ecology). The structure and function of marine ecosystems with an emphasis on processes in shallow-water and benthic habitats. Investigative field and laboratory studies of local marine and estuarine systems.
- 408 **THE BIOCHEMISTRY OF DRUG ACTION (3)**
Prereq: Biol 323 (or Chem 471). The effect and molecular mechanism of action of selected natural and synthetic chemical compounds, both naturally occurring and introduced, upon target and non-target organisms. Topics include selected drugs, pesticides, chemical mutagens and certain natural exochemicals produced by plants and animals. Normally offered in alternate years.

- 411 **PROFESSIONAL WORK EXPERIENCE IN BIOLOGY (3-6)**
Prereq. fourth-year status in biology and permission of department. Full- or part-time work with a cooperating agency or firm. Oral and written report required. Elective in major. S/U grading.
- 416 **FIRE ECOLOGY (4)**
Prereq: Biol 325, 404, and permission of instructor. Consideration and discussion of the literature of fire ecology, emphasis on the basic concepts of fire as a natural environmental factor, and on the role of fire in the vegetative formations in North America.
- 424 **ENTOMOLOGY (5)**
Prereq: Biol 212. Insects: their anatomy, physiology, development, classification, ecology and economic importance.
- 430 **SCIENTIFIC WRITING FOR BIOLOGISTS (3)**
Prereq: Biol 340. The techniques of writing a journal article; use of literature and data; the elements of style; pre-writing and revision.
- 449 **PATHOPHYSIOLOGY (5)**
Prereq: Biol 348, 349. A study of the mechanisms of disease, the responses of the body to the disease process and the effects of the pathophysiologic mechanisms on normal function.
- 452 **SYSTEMATIC BOTANY (5)**
Prereq: Biol 121 or previous course in botany. Taxonomy of higher plants with emphasis on the characteristics and phylogeny of flowering plant families; collection and identification of local species.
- 456 **ALGAE (5)**
Prereq: Biol 210. Physiology and ecology of macroalgae and phytoplankton; including identification, collection and culture of major algal groups. Laboratory focus on research techniques which are then applied in student independent projects.
- 461 **MARINE INVERTEBRATE ZOOLOGY (5)**
Prereq: Biol 212. Laboratory and field study of local marine invertebrates.
- 462 **ICHTHYOLOGY (5)**
Prereq: Biol 212. Form and function of fishes, life histories; behavioral adaptations; ecological relationships; distribution; evolution and classification; socio-economic value.
- 463 **ORNITHOLOGY (5)**
Prereq: course in zoology. Evolution of morphological adaptations of birds, classification, distribution; annual cycle including migration, breeding and population dynamics; laboratory study, field trips.
- 465 **MAMMALOLOGY (5)**
Prereq: Biol 212. Structural and physiological adaptations, population dynamics, distribution and classification of mammals with laboratory emphasis on local species. Normally offered in alternate years
- 469 **COMPARATIVE VERTEBRATE ANATOMY AND EMBRYOLOGY (5)**
Prereq: Biol 212. Morphological adaptations, developmental anatomy and evolution of organ systems in vertebrate animals. Laboratory study of adults and embryos of shark, frog, chicken, cat and pig.
- 470 **CELL AND TISSUE CULTURE (3)**
Prereq: Chem 123 and 20 credits in biology. Principles and basic techniques for in vitro culturing and manipulation of cells and tissues of plants and animals.
- 471 **MOLECULAR BIOLOGY AND BIOCHEMISTRY (3)**
Prereq: Biol 123, Chem 123, 353 or concurrent. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics. Also offered as Chem 471.
- 472 **MOLECULAR BIOLOGY AND BIOCHEMISTRY (3)**
Prereq: Biol 471. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics. Also offered as Chem 472.
- 473 **MOLECULAR GENETICS (3)**
Prereq: Biol 321, 345; Biol 323 or Chem 472. A study of the structure, replication, expression and control of genetic information.
- 474 **MOLECULAR BIOLOGY AND BIOCHEMISTRY LABORATORY (3)**
Prereq: Chem 123, 354 (or Chem 251), Biol 323 or Chem 472 (Chem 472 may be taken concurrently). Modern methods of isolation and analysis of cellular macromolecules and organelles. Also offered as Chem 474.

Biology

- 475 **MOLECULAR BIOLOGY AND BIOCHEMISTRY LABORATORY (3)**
Prereq: Biol 321, 345, Biol 473 or concurrent or Chem 473 or concurrent; Biol 474 or Chem 474. Molecular genetics of bacteria and viruses including nucleic acid manipulation, radiolabeling and sequencing. Also offered as Chem 475.
- 479 **PLANT PHYSIOLOGY (5)**
Prereq: Biol 211; Chem 251 or 351 and Chem 352. Basic principles of physiology including cell structure and function, plant-soil-water relationships, absorption and translocation of materials, transpiration, photosynthesis, respiration, mineral nutrition, growth and development, hormonal regulation.
- 485 **HISTORICAL AND PHILOSOPHICAL PERSPECTIVES OF BIOLOGY (5)**
Prereq: 20 credits in science, 15 in biology. The origins and development of biology as a science viewed in historical and philosophical perspective; the interaction of biology and society.
- 490 **PRINCIPLES OF ORGANIC EVOLUTION (4)**
Prereq: Biol 121, 123, Biol 321 recommended. Principles, patterns, processes, and mechanisms of evolution in the organic world.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

NOTE: Biol 503, 568, 571, 577 and 583 are broad-titled courses that deal with a variety of topics in biology. Each year there are usually several different subjects offered under these titles, each one taught by a different professor. Examples of recent course titles are: ecological methods; cave ecology; plant cell physiology; biosystematics of lichens; ecology of arctic shorelines; reproductive ecology of birds; chromosomal genetics

- 503 **ADVANCED TOPICS IN ECOLOGY (4)**
Prereq: 25 credits of biology and permission of instructor. Analysis of current literature on fundamental properties of ecosystems, communities, populations, species and characteristic environments.
- 507 **BIOLOGICAL OCEANOGRAPHY (4)**
Prereq: graduate status and Biol 406 or equivalent. Productivity of marine and coastal pelagic ecosystems. Energetics, food webs and biogeochemical cycles, laboratory and field exercises emphasize processes in local marine waters.

- 514 **VEGETATION OF WASHINGTON (4)**
Prereq: 25 credits of biology and permission of instructor (Biol 404 recommended). Consideration and discussion of the literature on the vegetation of Washington; emphasis on the pattern of vegetation in the five physiographic provinces and environmental factors controlling distribution of species.
- 515 **PLANT GEOGRAPHY OF NORTH AMERICA (4)**
Prereq: 25 credits of biology and permission of instructor (Biol 404 and 452 recommended). Vegetative zonation of North America emphasizing factors controlling distributional patterns and paleogeographical history of major biomes.
- 552 **EVOLUTIONARY SYSTEMATICS OF VASCULAR PLANTS (4)**
Prereq: 15 credits in botany and permission of instructor. Evolutionary systematics of vascular plants, phylogeny and evolutionary trends.
- 556 **PHYCOLOGY (5)**
Prereq: graduate status or permission of instructor. Identification, classification, and distribution of marine and freshwater algae, with emphasis on life history study through field and culture work.
- 559 **PLANT SPECIATION (4)**
Prereq: 25 credits of biology; Biol 490 recommended. Reproductive strategies and evolutionary patterns relating to formation and stabilization of discrete biological units (microspecies, species and higher categories) among higher plants
- 560 **EVOLUTIONARY RELATIONS OF INVERTEBRATES (5)**
Prereq: graduate status or permission of instructor. Advanced analysis of phylogeny and classification of invertebrates including recent information on morphology, physiology, development and ecology.
- 568 **TOPICS IN DEVELOPMENTAL AND COMPARATIVE MORPHOLOGY (4)**
Prereq: 25 credits of biology and permission of instructor. Structural changes, cellular interactions, and control mechanisms operating during growth and development or evolution of selected organisms
- 571 **ADVANCED TOPICS IN MOLECULAR GENETICS (4)**
Prereq: 25 credits of biology and permission of instructor. An examination of special topics including control of gene expression in eukaryotic and prokaryotic organisms, mechanisms of DNA replication and transcriptional regulation.

577 **ADVANCED TOPICS IN PHYSIOLOGY (4)**

Prereq: 25 credits of biology and permission of instructor. Topics in general, microbial or comparative physiology; laboratory work illustrating processes or experimental techniques.

578 **PROTEIN STRUCTURE, FUNCTION AND EVOLUTION (4)**

Prereq: upper-division course in biochemistry. Detailed investigation into the molecular structure and function of such proteins as enzymes, antibodies, histones, muscle proteins and hemoglobins. The use of proteins in establishing evolutionary relationships between organisms.

579 **ENZYMOLGY LABORATORY (3)**

Prereq: upper-division course in biochemistry. Techniques in isolation and characterization of various enzymes; purification techniques and determination of various kinetic parameters.

583 **ADVANCED TOPICS IN BIOSYSTEMATICS (4)**

Prereq: 25 credits of biology and permission of instructor. Role of morphology, cytology, biochemistry and genetics in taxonomy; systematic study of a specific group of local organisms.

584 **POPULATION AND COMMUNITY BIOLOGY (4)**

Prereq: upper-division course in genetics. Study of populations and communities as interacting, functioning systems, and the changes in the numbers and proportions of organisms in populations and the diversity of species in communities; also factors influencing changes in populations and communities.

595 **TEACHING PRACTICUM (1-3)**

Prereq: permission of instructor. Intended for the student who wants experience in teaching a biology course of his/her choice. Repeatable to 6 credits. S/U grading.

599 **SEMINAR IN BIOLOGY (2)**

Prereq: 40 credits in biology. Selected problems in biology, with emphasis on current literature. Repeatable.

690 **THESIS RESEARCH (1-12)**

Prereq: permission of thesis adviser. Research contributing to a graduate degree program. Graded "K" until thesis completed. Repeatable. S/U grading.



Canadian-American Studies

The Canadian-American studies major and minor are designed to expand the knowledge of Canada and the knowledge of Canadian-American relations and problems.

The major and minor are designed to accomplish several things. The body of information and understanding of Canada and our relations with Canada is desired by firms, agencies and individuals who do business in Canada or with Canadians, and as such is a great asset when combined with another major. Examples include the combination with business administration, marketing, purchasing, transportation, geography and other specialties for employment in firms doing business in Canada or with Canadians. Political scientists, sociologists, biologists, and others in the employ of government agencies at the state, federal and local level will find the programs of substantial value, especially in the border states and counties. The major is also designed for the individual who wishes to be truly knowledgeable about Canada and things Canadian. It is a valid area of academic study with a strong interdisciplinary orientation.

For program advisement contact R. L. Monahan, director, phone (206) 676-3728 or (206) 676-3284, Canada House 203 or AH 226.

BACHELOR OF ARTS

Canadian-American Studies

Major 50 credits

- Core Courses: Canadian-American Studies 200, 400, 401; Eng 334; French 101, 102, 103 (or equivalent), 280 or 201; Geog 313; Hist 277; Pol Sci 406

- Select additional credits from the following to complete the major: Anth 361, 411, 462; Econ 464, 465; French 450 (French-Canadian literature); Geog 310, 345 (regional historical geography—Canada); Hist 477; Journ 460; Pol Sci 301, 418g

Minor 30 credits

- Canadian-American Studies 200; Geog 313; Hist 277; Pol Sci 406
- 12 additional credits under advisement from Canadian-American Studies 400, 401; Econ 464, 465; French 101 (or equivalent); Geog 345 (regional historical geography—Canada); Hist 477; Pol Sci 418g

NOTE: Other Canadian content courses offered one time by University of Maine and other exchange faculty may apply to minor. Check with program adviser.

COURSES IN CANADIAN-AMERICAN STUDIES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 56-59 of this catalog.

200 INTRODUCTION TO CANADIAN STUDIES (5)

A basic interdisciplinary course of studies covering the major physical, historical and socio-political aspects of Canada.

401 RESEARCH AND PAPER WITH TWO INSTRUCTORS (5)

Prereq: Canadian-American Studies 200 and 15 credits from the core courses. Directed interdisciplinary research on a problem or in an area of interest. At least two instructors from two disciplines must be involved with this course.

Chemistry

The Department of Chemistry offers undergraduate degree programs in chemistry and biochemistry. American Chemical Society accreditation is available to B.S. graduates in chemistry. Major graduate and professional schools have readily accepted chemistry and biochemistry graduates from Western.

The Department of Chemistry—in addition to its core of fundamental studies in physical, inorganic, organic, analytical and biochemistry—has added a variety of elective courses that offer diversity in training, study and research at both the undergraduate and graduate levels. Within the department, faculty members are active in many research areas including organometallic chemistry, organic synthesis and reaction mechanisms, photochemistry, protein and nucleic acid biochemistry, molecular biology of viruses, electrochemistry, molecular spectroscopy, reaction kinetics, atmospheric and environmental chemistry, and new areas of computer applications.

Every effort is made to update and modernize coursework and teaching methods. Several faculty members have authored successful textbooks and computer-assisted instructional materials that have found wide usage at major universities. Western's graduates have a long and enviable record of success in Ph.D. programs at major research-oriented universities and in a variety of medical, dental and pharmacy programs.

CHEMISTRY FACULTY

All of the members of the department hold the Ph.D. degree and most have had postdoctoral experience before coming to Western. All are encouraged and supported in research. As a result, the department has an active undergraduate research program, and it offers as a unique feature an

unusual degree of personal contact between faculty and students. Furthermore, faculty members are aware of campus policies and resources, and both academic and career counseling is readily available to all chemistry students.

- MARK WICHOLAS (1967) Chair. Professor. AB, Boston University; MS, Michigan State University; PhD, University of Illinois.
- MARK E. BUSSELL (1990) Assistant Professor. BA, Reed College; PhD, University of California, Berkeley.
- JOSEPH R. CROOK (1970) Associate Professor. BS, University of Nevada; PhD, Illinois Institute of Technology.
- GEORGE A. GERHOLD (1969) Professor. BS, University of Illinois; PhD, University of Washington.
- DONALD M. KING (1966) Associate Professor. BS, Washington State University; PhD, California Institute of Technology.
- GEORGE S. KRIZ (1967) Professor. BS, University of California, Berkeley; PhD, Indiana University.
- GARY M. LAMPMAN (1964) Professor. BS, University of California, Los Angeles; PhD, University of Washington.
- JOHN A. MILLER (1966) Professor. BS, Oregon State University; PhD, Iowa State University.
- EDWARD F. NEUZIL (1959) Professor. BS, North Dakota State College; MS, Purdue University; PhD, University of Washington.
- DONALD L. PAVIA (1970) Professor. AB, Reed College; MS, PhD, Yale.
- GERRY A. PRODY (1984) Associate Professor. BS, PhD, University of California, Davis.
- SALVATORE F. RUSSO (1968) Professor. BA, Wesleyan University; PhD, Northwestern University.
- JOHN A. WEYH (1968) Professor. BA, College of Great Falls; MS, PhD, Washington State University.
- JOHN C. WHITMER (1969) Professor. BS, University of Rochester; MS, PhD, University of Michigan.
- H. WILLIAM WILSON (1966) Professor. BSc, University of Alberta; PhD, University of Washington.

Research Associate

Fred Foley (1983) BA, University of British Columbia.

PROGRAMS AND CAREER OPPORTUNITIES

The programs of study offered by the Chemistry Department are diverse

Chemistry

and challenging, and provide the following benefits to the student:

- A wide variety of accredited programs, designed to meet diverse career goals.
- A faculty committed to excellence in undergraduate education.
- Close student-faculty contact and relatively small classes.
- Direct access to modern laboratory equipment and instrumentation.
- Opportunity for research work at the junior/senior level under the direction of a faculty adviser.

The Chemistry Department offers three basic degree programs: Bachelor of Science, Bachelor of Arts, and Bachelor of Arts in Education. All three programs have a common core of study:

- One year of general chemistry and one year of college-level calculus (first year)
- One year of organic chemistry, one year of college physics and one quarter of analytical chemistry (second year)
- One year of physical chemistry (third year)

This provides the foundation for elective courses in the student's area of interest. Through choice of degree programs and electives, the student can prepare for careers in industry or government, teaching at the secondary level, or further study at the graduate level.

Students planning to major in chemistry or biochemistry or to begin university transfer programs involving chemistry courses are advised to consult the department at the beginning of the first year to arrange for proper sequence of courses.

Students planning to transfer to Western after completing two years of college study elsewhere should

complete as many of the following program requirements as possible prior to transfer in order to avoid delays in degree work completion:

- One year of general chemistry
- One quarter or one semester of analytical chemistry
- One year of organic chemistry
- One year of college-level calculus
- One year of college-level physics

Bachelor of Science. The department offers a B.S. program in chemistry and, with the Biology Department, a B.S. program in biochemistry/cellular and molecular biology. These are specifically designed for students interested in graduate study or careers in industry and government as laboratory scientists.

Bachelor of Arts. This program provides less intensive training in chemistry but, when combined with a minor in a related area, prepares students for a variety of career opportunities in fields such as:

- Chemical Sales & Marketing
- Computer Sciences
- Technical Writing (Journalism)
- Environmental Sciences
- Secondary School Teaching

Bachelor of Arts in Education. This program provides several program emphases (chemistry-biology, chemistry-mathematics, and chemistry-physics). Although requirements within these options differ in detail, the three programs are similar enough that the prospective teacher need not choose among them until the sophomore or junior year. Successful graduates are qualified to teach in their areas of concentration at the middle school or high school level. Prospective teachers with qualifications in more than one area will have a distinct advantage in seeking such positions. Detailed descriptions of each of these degree programs and course descriptions are given below.

BACHELOR OF ARTS

Major — Chemistry 56 credits
plus supporting courses

- Chem 121, 122, 123, 333, 351, 352, 353, 354, 355, 461, 462, 463, 464, 465, 434 or 441, plus elective
- Supporting courses: one year college physics and Math 124, 125, 224
- Sci Ed 491, 492 (teacher preparation only, see section for B.A. Ed.)

Minor 24 credits

- Chem 121, 122, 123
- A minimum of 9 credits under approval of the Chemistry Department from Chem 333, 351 (or 251), 352, 353, 354, 371, 461, 462, 463, 482

To obtain minor approval a minimum of four credits of those required must be taken in chemistry at Western Washington University under Chemistry Department advisement.

Teaching Endorsement

Students planning on careers as high school teachers must take Sci Ed 491 and 492 plus the secondary education program in addition to the Bachelor of Arts degree. Because certification to teach high school now requires more than four years, advisement prior to or at the beginning of the third year is absolutely necessary to avoid lengthening the program.

BACHELOR OF ARTS IN EDUCATION

Combined Major — Chemistry/Mathematics — Secondary 88-90 credits
plus supporting courses in Physics

This major meets the requirements for Washington state teaching endorsements in both chemistry and mathematics.

- Chem 121, 122, 123, 461, 462, 463
- 9-11 credits in chemistry to include a minimum of five credits in organic chemistry under departmental advisement
- Math 124, 125, 224
- Math 204, 305, 360, 483
- CS 210, Math-CS 207, 208
- Sci Ed 491, 492
- Supporting courses: one year college physics. (Recommended sequence is Physics 121, 122, 123, 125.)
- Math 419 recommended as writing proficiency course

Combined Major — Chemistry/Physics —

Secondary 78-80 credits
plus supporting courses

This major meets the requirements for Washington state teaching endorsements in both chemistry and physics.

- Chem 121, 122, 123
- Chem 461, 462, 463
- 9-11 credits in chemistry including five credits in organic chemistry under departmental advisement
- Physics 121, 122, 123, 125, 221, 222, 231, 232
- 9 credits in physics under departmental advisement
- Sci Ed 491, 492
- Supporting courses: Math 105, 124, 125, 224

Combined Major — Chemistry/Biology

See the Biology Department section of this catalog.

Teaching Endorsement

The BA Ed degrees above require completion of the Secondary Education Certification Program in the Department of Educational Curriculum and Instruction. Recommendation for teaching endorsement in chemistry normally requires comple-

Chemistry

tion of one of the above majors with a grade point of 2.50 or better in the chemistry courses. As certification to teach high school now requires more than four years of study, advisement prior to or at the beginning of the third year is absolutely necessary to avoid lengthening the program.

BACHELOR OF SCIENCE

Major — Chemistry 110 credits

- Chem 121, 122, 123, 333
- Chem 351, 352, 353, 354, 355
- Chem 434, 441, 461, 462, 463, 464, 465
- Supporting courses: Physics 121, 122, 123, 125; Math 124, 125, 204, 224; Comp Sci 110 or 210
- Advanced electives with prior departmental approval in chemistry, biology, geology, computer science, physics and mathematics to total 110 credits including above required courses. A maximum of 6 credits total in Chem 400, 401 and 498 can be counted toward the ACS-certified Bachelor of Science degree.

NOTE: The Chemistry Department at Western Washington University is approved by the American Chemical Society and students who complete the Bachelor of Science in Chemistry program receive ACS certification of their degree.

A typical four-year program leading to a Bachelor of Science (ACS certified) is outlined below:

First Year

Chem 121, 122, 123; Math 124*, 125, 224

Second Year

Chem 333, 351, 352, 353, 354, 355; Comp Sci 110 or 210; Physics 121, 122, 123, 125

Third Year

Chem 441, 461, 462, 463, 464, 465; Math 204

Fourth Year

Chem 434, plus electives (see above)

**Students not prepared for calculus should begin with Math 103 or 105.*

Interdisciplinary Major — Biochemistry/Cellular and Molecular Biology 110 credits

Biochemistry Emphasis

(For cellular and molecular biology emphasis, see the Biology Department section of this catalog.)

- Biol 121, 123, 211 or 212, 321, 345
- Chem 121, 122, 123, 333, 351, 352, 353, 354, 461, 462, 466, 471, 472, 473, 474, 475
- Math 124, 125, 224
- Physics 121, 122, 123, 125

This program is specifically designed for students who seek graduate study or employment in biochemistry or molecular biology.

DEPARTMENTAL HONORS

Students participating in the University Honors Program may also earn Departmental Honors by completing both the University Honors Program requirements and Chemistry 498.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the Graduate School section of this catalog.

COURSES IN CHEMISTRY

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

101 CHEMICAL CONCEPTS (4)

Prereq: Math 102. A survey course for non-science students. Fundamental topics of chemistry such as: atoms and molecules, periodic table, organic and biochemistry, radioactivity. Applications to selected and variable topics. Laboratory included.

- 115 GENERAL CHEMISTRY (5)
Prereq: Math 103 or the equivalent score on the intermediate algebra mathematics placement test. Principles and laws of chemistry developed from the properties, structure, and reactions of matter; an abbreviated course in general chemistry for students not requiring Chem 121, 122 in their programs. Laboratory included.
- 121, 122, 123 GENERAL CHEMISTRY I, II, III (5 ea)
Prereq: Math 103 or the equivalent score on the intermediate algebra mathematics placement test. Each course prerequisite to the next. Stoichiometry, atomic and molecular structure, states of matter, solutions, thermodynamics, chemical equilibrium, kinetics, electrochemistry. Laboratory.
- 251 ELEMENTARY ORGANIC CHEMISTRY (5)
Prereq: Chem 115 or 121. Reactions, nomenclature, and uses of carbon compounds; an abbreviated course in organic chemistry primarily for persons not requiring the Chem 351-354 series.
- 305 GLASS WORKING (1)
Prereq: permission of instructor. One hour of demonstration and three hours of lab per week. Basic glass working and construction of simple glass apparatus. May be repeated once for credit. S/U grading.
- 308 INTRODUCTION TO POLYMER CHEMISTRY (3)
Prereq: Chem 115, Tech 333. Types of polymers, methods of polymerization, and preparation of important commercial thermoplastic and thermosetting plastics. Addition and condensation polymers are prepared in the laboratory.
- 333 ANALYTICAL CHEMISTRY (5)
Prereq: one year of general chemistry. Theory and practice of gravimetric, volumetric, potentiometric and spectrophotometric methods of analysis. Selected analytical topics such as ion exchange resins, non-aqueous solvents, chelates, extractions, chromatography.
- 351, 352, 353 ORGANIC CHEMISTRY (4,4,3)
Prereq: Chem 122; each course prerequisite to the next. Chemistry of carbon compounds with emphasis on structural theory, reactions, and mechanisms.
- 354 ORGANIC CHEMISTRY LABORATORY I (2)
Prereq: Chem 352 or concurrent. Techniques of organic chemistry: reactions, separations and syntheses of organic compounds.
- 355 ORGANIC CHEMISTRY LABORATORY II (2)
Prereq: Chem 353 and 354 or concurrent. Techniques of organic chemistry: reactions, separations; syntheses and introduction to practical spectroscopy.
- 371 ELEMENTARY BIOCHEMISTRY (5)
Prereq: Chem 251. Not recommended for students with Biol 323. Outlines of structures and metabolisms of carbohydrates, lipids, proteins, and nucleic acids; biochemical functions of vitamins, hormones, and some co-enzymes; basic properties of enzymes. Laboratory.
- 399 SEMINAR IN CHEMISTRY (1)
Prereq: 25 credits in chemistry. Presentation and discussion of papers in chemistry. S/U grading.
- 401 PROJECT IN CHEMISTRY (1-3)
Prereq or concurrent: Chem 461 and Chem 333; junior status in chemistry and an overall 3.0 g.p.a. in chemistry courses. Permission of instructor required. Individual projects under supervision. Presentation and discussion of projects encouraged and a written report is required. S/U grading.
- 425 ADVANCED TOPICS IN CHEMISTRY (3)
Prereq: permission of instructor and any additional prerequisites as listed. A series of senior electives in chemistry.
- 425a Natural Products Chemistry
Prereq: Chem 353
- 425b Organic Reactions
Prereq: Chem 353
- 425c Physical Organic Chemistry
Prereq: Chem 353, 463 or concurrent
- 425d Group Theory and Spectroscopy I
Prereq: Chem 463
- 425e Group Theory and Spectroscopy II
Prereq: Chem 425d
- 425h Enzyme Chemistry
Prereq: Chem 463 or 466, 471
- 425i Immunology
Prereq: Chem 473 or Biol 473
- 425m Organometallic Chemistry
Prereq: Chem 441
- 425n DNA-Binding Proteins
Prereq: Chem 473 or Biol 473 or concurrent
- 425p Advanced Molecular Biology
Prereq: Chem 473 or Biol 473
- 434 INSTRUMENTAL ANALYSIS (4)
Prereq: Chem 333; Chem 462 or concurrent. Theory and experimental techniques of optical, electrical and other physical measurements applied to chemical analysis.

Chemistry

- 441 ADVANCED INORGANIC CHEMISTRY (4)**
Prereq: Chem 462 or concurrent. Bonding, structure and reactivity of inorganic molecules; transition metal and organometallic chemistry; chemistry of the non-metallic elements.
- 454 ORGANIC SPECTROSCOPY (5)**
Prereq: Chem 123, 353 and 355. Identification of organic compounds by spectroscopic methods: infrared, nuclear magnetic resonance, ultraviolet and mass spectroscopy. Laboratory work includes application of spectroscopy in identifying unknowns with confirmation by chemical methods.
- 461, 462, 463 PHYSICAL CHEMISTRY (4,4,3)**
Prereq: one year of college physics, Math 224 or concurrent, and one year of general chemistry; each course prerequisite to the next. Atomic and molecular structure, states of matter, solutions, chemical thermodynamics and equilibria, chemical kinetics, and electrochemistry.
- 464, 465 PHYSICAL/INORGANIC CHEMISTRY LABORATORY (3 ea)**
Prereq: Chem 333 and 461; Chem 441 and 462 are co-requisites for Chem 464; Chem 463 is a co-requisite for Chem 465. An integrated approach to inorganic synthesis and physical measurement. Includes formal report writing.
- 466 BIOPHYSICAL CHEMISTRY (3)**
Prereq: Chem 462. Physical chemistry applied to biochemistry. Topics such as biochemical kinetics, ligand binding, sedimentation, electric fields, biochemical spectroscopy and X-ray diffraction.
- 471, 472, 473 BIOCHEMISTRY AND MOLECULAR BIOLOGY (3 ea)**
Prereq: Chem 123, 353 (or concurrent), and Biol 123; each course prerequisite to the next. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics; molecular biology. Chem 471, 472 also offered as Biol 471, 472.
- 474, 475 BIOCHEMISTRY AND MOLECULAR BIOLOGY LABORATORY (3 ea)**
Prereq: Chem 123, 354 (or 251), 472 or concurrent (or Biol 323); Chem 473 (or concurrent) and 474 prerequisite to Chem 475. Modern methods of isolation and analysis of cellular macromolecules and organelles. Molecular genetics of bacteria and viruses including nucleic acid manipulation, radiolabeling and sequencing. Also offered as Biol 474, 475.
- 482 NUCLEAR CHEMISTRY (3)**
Prereq: Chem 123, Physics 116 or equivalent, and Math 125. Theoretical and applied nuclear and radiochemistry.
- 494 INDUSTRIAL WORK EXPERIENCE (3)**
Prereq: 30 credits in chemistry including Chem 333 and permission of department. Academic credit awarded for chemical employment in industry or government in areas such as research, development or quality control. Written report required. May be repeated once. See Chemistry Department for information. S/U grading.
- 498 RESEARCH PROJECT IN CHEMISTRY (6: 3 in each of two successive quarters)**
Prereq: permission of instructor. Investigation of a problem under departmental supervision. The project must extend over a minimum of two quarters with credit granted after the presentation of an oral report and submission of an acceptable written report. S/U grading.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 RESEARCH PROJECT IN CHEMISTRY (2-6)**
Prereq: permission of instructor. Advanced individual laboratory projects under supervision. Repeatable for credit.
- 510 SPECIAL TOPICS (1-3)**
Prereq: permission of instructor. Specialized lectures on a conference basis for a particular area of interest. Repeatable for credit.
- 511 ADVANCED LABORATORY METHODS (1-3)**
Prereq: Chem 463. Specialized laboratory on a conference basis for a particular area of interest. Repeatable for credit.
- 531 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (3)**
Prereq: Chem 434 and 463. Special methods of separation; acid-base relationships in non-aqueous solvents; chromatography, coulometric and potentiometric methods, determination of organic functional groups, micro-analytical operations and methods. Repeatable for credit.
- 534 INSTRUMENTAL ANALYSIS (4)**
Prereq: Chem 333, 462 or concurrent, permission of instructor. Principles of chromatographic, spectrochemical and electrochemical methods of analysis.

- 540 **ORGANOMETALLIC CHEMISTRY (3)**
Prereq: Chem 441. Classes of organometallic compounds; structure, bonding, general patterns of reactivity; reactions; industrial homogeneous catalysis.
- 551 **PHYSICAL ORGANIC CHEMISTRY (3)**
Prereq: Chem 353 and 463, or permission of instructor. Modern concepts of physical organic chemistry and their use in the elucidation of reaction mechanism; relation of structure to chemical reactivity.
- 552 **CHEMISTRY OF NATURAL PRODUCTS (3)**
Prereq: Chem 353 or permission. Isolation, structure, synthesis, biosynthesis and photochemistry of selected classes of natural products.
- 553 **ORGANIC REACTIONS (3)**
Prereq: Chem 353 or permission. Organic chemical reactions as applied to problems in organic synthesis.
- 562 **GROUP THEORY AND SPECTROSCOPY I (3)**
Prereq: Chem 463. Correlation of mathematical group theory with molecular symmetry, and application of symmetry groups to the interpretation of molecular spectra. Principle applications will be to infrared and Raman vibrational spectra.
- 563 **GROUP THEORY AND SPECTROSCOPY II (3)**
Prereq: Chem 463, 562. Continuation of Chem 562 with applications of symmetry and group theory to quantum chemistry, molecular orbitals, and electronic spectra of molecule and crystals.
- 573 **ENZYME CHEMISTRY (3)**
Prereq: Chem 463 or 466, 471. Normally offered in alternate years. Preparation and measurement of activities of enzymes; mechanism of enzyme reactions; properties of individual enzymes and coenzymes.
- 575 **IMMUNOLOGY (3)**
Prereq: Chem 473 and permission of instructor. Biochemistry of the immune response, antibody structure and function, origin of antibody diversity, cell-mediated immunity.
- 576 **DNA-BINDING PROTEINS (3)**
Prereq: Chem 473 or Biol 473 or concurrent. Structure and function of proteins that bind to DNA.
- 577 **ADVANCED MOLECULAR BIOLOGY (3)**
Prereq: Chem 473 or Biol 473. Current topics in molecular biology with emphasis on eukaryotic organisms: chromosome structure and topology, replication, transcription, translation and regulation.
- 595 **SEMINAR (1)**
Presentation of contemporary subjects in chemistry. S/U grading. Repeatable to 2 credits.
- 690 **THESIS (1-6)**
Research in chemistry under faculty direction terminating in a master's thesis. S/U grading. Repeatable for credit.
- 694 **INDUSTRIAL INTERNSHIP IN CHEMISTRY (6)**
Prereq: advancement to candidacy and permission of Graduate adviser. A supervised technical field experience in chemical laboratory practice. The experience may be in an industrial or government laboratory setting in such areas as research and development, chemical sales, manufacturing, process development, clinical chemistry, analytical chemistry, quality control or environmental control. A project report following an approved format will be required in this course. S/U grading. Repeatable once.
- 696 **INTERNSHIP IN CHEMISTRY IN THE COMMUNITY COLLEGE (9-12)**
Prereq: permission of instructor. An in-depth experience in instruction at a selected community college; also provides an exposure to the philosophy of the community college. S/U grading.



Communication

The Department of Communication provides the focus for a strong liberal arts education and professional preparation. Students develop additional depth from other academic departments. The department offers degree programs in Communication and Communication Education. In addition, the department maintains its commitment to the liberal arts tradition by offering courses in support of the General University Requirements and other departments.

Two degrees are granted: the Bachelor of Arts and the Bachelor of Arts in Education. The Bachelor of Arts degree can lead to placement in industry, government or graduate studies beyond the B.A. level. The Bachelor of Arts in Education degree gives certification for elementary or secondary school teaching.

COMMUNICATION

Students in communication qualify for a wide variety of employment and career opportunities. The entire communication field is growing rapidly, and increased diversification of employment opportunities is expected.

Specialization is provided through a choice of three areas of emphasis—communication studies, rhetorical studies and broadcast media studies.

Students in communication studies and/or rhetorical studies find opportunities in the public and private sectors of business and government, and in such professions as the ministry and law. Scholarship, teaching and organizational or skills training provide additional outlets for good students.

Students in broadcast media studies face a growing range of media-oriented employment possibilities including television and radio stations, commercial media production facilities, and industrial and govern-

mental in-house electronic media applications.

The strong attention to writing and research in all three areas of emphasis provides students with communication skills needed for entry-level employment in public relations, organizational training and other communication-related positions.

Undergraduates are offered a wide variety of activities sponsored by the department. These include a nationally active program in debate and forensics; news production at local radio stations; two ongoing television activities which present news and public affairs programs over the local cable outlet; and opportunity to develop teaching skills through the Personalized System of Instruction (PSI) Fundamentals of Speech program. These activities provide opportunity to practice and develop skills in realistic settings outside the classroom.

The departmental internship program provides a culminating experience for seniors approaching the job market. A wide variety of internships in the private and public sectors is available for qualified students.

COMMUNICATION EDUCATION

Graduates with the Bachelor of Arts in Education at the secondary level find that the most common assignment is one involving not only Communication but English as well. An interdisciplinary major in Communication/English is offered as preparation for this type of assignment. As much of the elementary classroom activity involves communication skills, it is recommended that the prospective teacher select a communication program to accompany the professional elementary preparation program.

The Department of Communication offers broad opportunities for learning, both theoretical and practical. Further information and guidance may be obtained by contacting the department chair or one of the area of emphasis advisers.

COMMUNICATION FACULTY

- LARRY S. RICHARDSON (1970) Chair.
Associate Professor. BA, Western Washington College of Education; MEd, Central Washington State College; MA, PhD, Washington State University (Rhetorical Studies, Debate/Forensics).
- ANNA EBLEN (1986) Assistant Professor. BA, Duke University; MA, University of West Florida; PhD, University of Oregon (Communication Studies).
- MARVIN L. OLMSTEAD (1969) Associate Professor. BS in Ed, Black Hills Teachers College; MA, Washington State University; PhD, University of Washington (Rhetorical Studies, Communication Studies).
- ALDEN C. SMITH (1966) Associate Professor. BS, Florida Southern College; MS, Syracuse University; PhD, University of Illinois (Broadcast Media Studies).
- JIANGLONG WANG (1989) Assistant Professor. BA, Fudan University; MA, PhD, Northwestern University (Communication Studies, Broadcast Media Studies).

DECLARATION OF MAJOR

- A 2.75 cumulative grade point average (GPA) is required at the time of application in courses taken from any accredited institution of higher education. This GPA may be determined on the basis of the student's most recent four quarters as a full-time student.
- Complete the following with a B or better:
— Comm 101 or 235 and 220
- File an approved program of study with a departmental adviser and apply for major approval. The department has established the following policy for declaring a Communication major. At the beginning of each quarter students submit a portfolio of their work, the department reviews portfolios, and announce

ces names of successful applicants at the end of the quarter. The portfolio includes the following items:

- transcripts of all college work completed to date
- a letter of intent to major in communication
- a resume including college work, work experience, recreational and avocational activity, internships, awards and honors, and public service activities
- samples of academic work including the student's best research paper or, if not available, significant written work represented in a collegiate assignment
- letters of recommendation from employers, associates, teachers and supervisors
- results of the Junior Writing Examination

If the number of applicants exceeds the number of available positions, students meeting the first two requirements above will be admitted in rank order based on evaluation of their portfolio.

BACHELOR OF ARTS

Major — Communication

70 credits

Students contemplating a major in communication are encouraged to register as communication pre-majors at the earliest possible opportunity.

- Satisfy departmental course requirements for declaration of major
- Complete the following: Comm 398, 498 and Lib Sci 125
- Complete one of the following areas of emphasis:

Communication Studies

- 18 credits of electives from:
Comm 224, 327, 416, 420, 427, 428. Note: A total of 6 credits from the following may be

Communication

substituted for electives:
Comm 236, 436, 450, 451, 459;
300, 400

- 6 credits in rhetorical studies
- 3 credits in broadcast media studies
- Complete supporting course work: An official minor comprised of 25 credits and approved at the time of declaration normally constitutes the supporting course work. (A group of courses comprised of 25 credits, and approved by the adviser, also may satisfy this requirement.)

Rhetorical Studies

- 18 credits of electives from: Comm 230, 235, 331, 416, 430, 435, 436. Note: A total of 6 credits from the following may be substituted for electives: Comm 236, 436, 450, 451, 459; 300, 400
- 6 credits in communication theory
- 3 credits in broadcast media studies
- Complete supporting course work: An official minor comprised of 25 credits and approved at the time of declaration normally constitutes the supporting course work. (A group of courses comprised of 25 credits, and approved by the adviser, also may satisfy this requirement.)

Broadcast Media Studies

- Comm 240, 241, 242
- 9 credits from Comm 243, 340, 343, 440, 448
- A total of 6 credits of practicum selected under departmental advisement from: Comm 245, 442
- Journ 104, 350, and 12 credits of additional supporting courses taken outside of the department under advisement (See broadcast media studies adviser for list of recommended courses.)
- 9 credits of Comm 449 (up to 3

credits of Comm 300 or 400 may be substituted under advisement)

Minor — Communication

25 credits

- Comm 101 or 235, and 220
- 5 courses, one or more from each of the following areas of emphasis:
 - *Communication Studies*: Comm 224, 230, 327
 - *Rhetorical Studies*: Comm 235, 331
 - *Broadcast Media Studies*: Comm 240, 241, 242

BACHELOR OF ARTS IN EDUCATION

Declaration of Major

- Maintain a GPA of 2.75 for all college work

Major — Communication — Elementary Education

45 credits

This major meets the requirements for a supporting endorsement in speech for Washington state certification.

- Comm 101 or 312, Th A 265
- Comm 224, 327
- SPA 351 or 354
- Th A 101, 350, or 351
- Comm 454, 498
- Electives chosen from the following: Comm 220, 235, 236, 240, 318, 427, 436, 450, 451; Th A 212, 216, 350, 351, 452; Lib Sci 309; SPA 351 or 354

Major — Communication — Secondary Education

70 credits

This sequence meets minimum requirements for Washington state certification, primary endorsement in speech.

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327, 427
- Comm 220, 240, 318, 498
- Comm 455
- Th A 101, 160, 265
- Electives in Communication
- Choose one of the following emphases:
 - *Theatre*: Th A 212, 215, 216
 - *Forensics*: Comm 436, 456, and one course, under advisement, relevant to this emphasis

Minor — Communication

Education 32-33 credits

This sequence provides a supporting endorsement in speech for Washington state teacher certification.

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327
- 12 credits in communication courses selected under departmental advisement

Interdisciplinary Major

Concentration — Communication/English

93-94 credits

This sequence results in primary endorsements for Washington state teaching certification in both speech and English. (Communication 44-45 credits, and English 49 credits.)

Communication 44-45 credits

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327, 427
- Comm 220, 240
- Comm 455, 498
- 5 or more credits selected from the following:
 - Comm 230, 236, 241, 318, 420, 435, 436, 450, 451, 456, 456s
 - Th A 265

English 49 credits

See the English Department section of this catalog.

COURSES IN COMMUNICATION

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 101 FUNDAMENTALS OF SPEECH (4)
Functional approach to effective communication. application of principles to practical problems in speech. Teacher education sophomores (or above) are advised to take Comm 312 unless Comm 101 is needed to satisfy their GUR requirements.
- 220 SURVEY OF COMMUNICATION (5)
Survey of human communication: interpersonal, rhetorical, mass communication and intercultural.
- 224 SMALL GROUP PROCESSES (4)
Exploration of the dynamics of human interaction in small group settings. Group tasks include the development of problem-solving skills, utilizing topics of current interest.
- 230 SURVEY OF RHETORIC (4)
Survey of major rhetorical theories from ancient Greece to the 20th Century.
- 235 EXPOSITION AND ARGUMENTATION (4)
Theory and practice of principles of reasoned discourse as applied to public discussion of controversial issues.
- 236 INTERCOLLEGIATE FORENSICS (1-3)
Debate, extemporaneous and impromptu speaking, and interpretive reading and other phases of forensics. Repeatable to 6 credits.
- 240 INTRODUCTION TO MASS COMMUNICATION (4)
Introduction to the structure and history of the mass media, as well as to the political, social and cultural effects of mass communication. Credit not allowed for both Comm 240 and Journ 190.
- 241 INTRODUCTION TO BROADCASTING (3)
Prereq: Comm 240. History and development of radio and television. Theory and technique of basic broadcast procedures; practice in developing fundamental broadcast communication skills.

Communication

- 242 BROADCAST WRITING (3)
Prereq: Comm 241; Journ 104. The preparation of news, advertising and public affairs copy for radio and television.
- 243 BROADCAST COMMUNICATION I (3)
Prereq: Comm 242. Laboratory practice in applying communication skills to broadcast media; gathering, preparation and delivery of radio news.
- 245 RADIO NEWS STAFF (2)
Prereq: Comm 243; written permission of instructor. Participation on the news staff of local radio stations. Practicum in reporting, writing, producing and announcing. Repeatable to 4 credits.
- 312 SPEECH FOR THE TEACHER (3)
Prereq: junior status; intended for teacher education students. Communication principles and applications to assist prospective teachers in the development of their individual speech skills and to prepare them to meet the communication needs of their students.
- 318 PROFESSIONAL COMMUNICATION (3)
Prereq: junior status; open to non-communication majors. Theory and practice in job interview, small group problem-solving discussion, public discussion and public speaking. Normally offered alternate years.
- 327 THEORY AND PRACTICE OF COMMUNICATION (3)
Prereq: junior status. Theory and practice of communication in dyad and small groups. Focus on competencies identified by interpersonal communication research; competencies include listening, conflict and negotiation, non-verbal behavior and relationship development.
- 331 ADVANCED PUBLIC SPEAKING (3)
Prereq: Comm 101 or 312. Theory and practice in the art of public discourse.
- 340 TV PRODUCTION I (3)
Prereq: Comm 240; written permission of instructor. Theory and technique of basic television production. Laboratory practice utilizing media services television facilities.
- 343 BROADCAST COMMUNICATION II (3)
Prereq: Comm 243. Laboratory practice in production of radio news and public affairs programs.
- 398 RESEARCH METHODS IN COMMUNICATION (4)
Prereq: Comm 220; junior status; departmental majors only. Survey of research methods, qualitative and quantitative, utilized in the field of communication. Focus will be on the rationale for, and the application of, particular methods.
- 416 TOPICS IN COMMUNICATION (3-4)
Prereq: senior status; departmental majors only. In-depth coverage of special topics in communication, rhetoric and mass media. The subject of each individual course and its prerequisite will be announced in the Timetable of Classes. Repeatable to 12 credits.
- 420 THEORIES OF HUMAN COMMUNICATION (4)
Prereq: junior status; departmental majors only. Special topics in human communication including systems theory, information theory, theories of signs, and theories of meaning and thinking.
- 427 ISSUES OF INTERPERSONAL COMMUNICATION (4)
Prereq: Comm 327; junior status; departmental majors only. In-depth examination of theory and practice in interpersonal communication. Normally offered alternate years.
- 428 ORGANIZATIONAL COMMUNICATION (3)
Prereq: one of the following: Comm 220, 327, 420; departmental majors only. Emphasizes the role of communication as central in human organizing. Describes the relationships among communication theories and other theories of organizational behavior. Applies theories to varied organizational settings.
- 430 RHETORICAL CRITICISM (4)
Prereq: Comm 233; senior status; departmental majors only. Survey of major theorists and theories of rhetorical criticism and applications to the understanding of contemporary public discourse. Normally offered alternate years.
- 435 PRINCIPLES OF PERSUASION (4)
Prereq: Comm 235; departmental majors only. Study of principles that influence attitudes and opinions in persuasive situations. Normally offered alternate years.

Communication

- 436 **ADVANCED FORENSICS AND DEBATE (1-3)**
Prereq: 6 credits in Comm 235 and/or 236. Emphasis on intercollegiate debate with opportunity for experience in extemporaneous, impromptu and persuasive speaking. A maximum of 6 credits may be earned in Comm 436; a combined total of 6 credits from Comm 236 and Comm 436 may be applied to the major.
- 440 **TV PRODUCTION II (3)**
Prereq: Comm 340; written permission of instructor. Advanced theory and technique of television production. Laboratory experience utilizing media services television facilities.
- 442 **TELEVISION NEWS PRODUCTION (2)**
Prereq: Comm 242, 340; written permission of instructor; concurrent enrollment in Journ 431, 432 or 433, or Tech 442 recommended. Participation on staff of University television news programs. Practicum in the gathering, preparation and presentation of televised news. Repeatable to 4 credits.
- 448 **PRODUCING AND DIRECTING THE BROADCAST PROGRAM (4)**
Prereq: Comm 243, 340; departmental majors only. Production and direction for radio and television; preparation and execution of public affairs and documentary programs. Normally offered alternate years.
- 449 **FIELD INTERNSHIP IN MASS COMMUNICATION (6-12)**
Prereq: senior status; written permission of adviser; departmental majors only. Supervised work in mass communication for a broadcast station, media production house, government agency or other appropriate business. Regular meetings, written reports and a paper on an approved topic related to the internship are required. (All other academic requirements must be completed prior to the internship.) S/U grading.
- 450 **COMMUNICATION PEDAGOGY I (3)**
Prereq: recommendation; written permission of instructor. Serve as undergraduate tutor for students taking communication courses. Learn instructional methods and gain further mastery of course content. Conduct supervised tutoring and feedback for students enrolled in communication courses. S/U grading.
- 451 **COMMUNICATION PEDAGOGY II (3)**
Prereq: Comm 450; recommendation; written permission of instructor. Help supervise teams of undergraduate tutors. Develop leadership, organizational and pedagogical skills. S/U grading.
- 454 **SPEECH FOR THE ELEMENTARY TEACHER (3)**
Prereq: junior status. Methods of utilization of the speech arts in the elementary classroom. Normally offered alternate years.
- 455 **TEACHING SPEECH IN THE SENIOR HIGH SCHOOL (3)**
Prereq: 15 credits in Communication. Exploration and critique of methods and materials used in teaching public address, interpersonal and small group communication and extracurricular speech activities. Normally offered alternate years.
- 456 **DIRECTING THE FORENSICS PROGRAM (4)**
Prereq: Comm 235 or 236 (taken for 4 credits). Conducting tournaments, critiquing debates and individual events, budgeting. Normally offered alternate years.
- 456s **HIGH SCHOOL DEBATE COACH WORKSHOP (2)**
Prereq: one year teaching experience or graduate student status. An intensive lecture, seminar and workshop program in pedagogy related to teaching of argumentation, debate and forensics. Purpose is improvement of instruction. Summer only.
- 459 **FIELD INTERNSHIP IN COMMUNICATION (3-12)**
Prereq: senior status; written permission of adviser; departmental majors only. Supervised work in communication with an educational institution, public agency or private enterprise. A paper on an approved topic related to the internship is required; other work may be required as determined by the supervising faculty member. S/U grading.
- 498 **COMMUNICATION: ISSUES AND RESPONSIBILITIES (4)**
Prereq: senior status; written permission of instructor; departmental majors only. Examines in detail the ethical concerns and responsibilities related to various aspects of the Communication field and the practice of communication. Topics include: deception, the ethics of persuasion and social responsibilities of communicators.

Computer Science

Computer Science is the study of techniques involved in the processing of information. Some areas which are represented in such a study are abstract structures for the representation and organization of information, algorithms to guide the processing of information, the technology and architectures of hardware used in these activities, and the analysis of appropriate tools, such as compilers and operating systems. These areas of study involve both a theoretical basis and the implementation of practical applications.

The Bachelor of Science in Computer Science degree program at Western is accredited by the Computing Sciences Accreditation Board, which has been established by the Association for Computing Machinery and the Institute of Electrical and Electronic Engineers Computer Society.

The curriculum in computer science is broad and well-balanced. Introductory-level courses are offered at several levels, some acting as service courses for students who wish to obtain a degree of computer literacy, others delving more deeply into the underlying concepts. Several high-level languages are taught, including Pascal, FORTRAN, Ada, C, Lisp, Modula 2, and COBOL. More advanced topics include algorithm analysis, computer architectures, artificial intelligence, computability, historical and social aspects of computing, database theory, compiler construction, operating systems, computer simulations and computer graphics. There are courses oriented toward business, such as "Business Computer Systems" and "Systems Analysis." Courses oriented toward mathematical applications, such as "Numerical Analysis" and "Operations Research," are offered within the Mathematics Department.

The major computer support for the undergraduate program is a VAX

8650, running VMS. This machine is equipped with several editors and compilers for most of the major programming languages, and there are a large number of terminals for student access. A small network of workstations provides additional support for students. The department has a computer network that includes high-powered color-graphics workstations, an Intel iPSC/1 Hypercube, a SUN III workstation and two AT&T System 3B-2s, all running Unix. Access to the national and international computing community is available through Western's connection to Internet. Several laboratories containing microcomputers are open for student use. A hands-on laboratory is available for computer science majors. The laboratory is organized around Motorola 68000 VME-BUS based systems.

MAJOR PROGRAMS

The Department of Computer Science offers an undergraduate major that leads to the Bachelor of Science degree and a major in computer science education that offers a Bachelor of Arts in Education degree. In addition, joint majors are offered with the departments of Mathematics, Physics, Business and Accounting. Minors are also available in both computer science and computer science education. Graduate study, culminating in a Master of Science degree, is also offered by the department.

The goals of the computer science major are a broad conceptual base as well as considerable experience with applications. The intent is to give the student a suitable foundation from which to pursue a graduate education or keep up with the changes and advances in computing technology.

DECLARATION OF MAJOR

The department has established a

policy for admission to the computer science major, and for admission to the various joint majors with mathematics, physics, business and accounting. Certain courses must be completed before a student is accepted as a major, and acceptance is based upon the student's grades in those courses, as follows: for the computer science major—Math 124, 125, Math-CS 207, CS 210, 310 and 331; for the joint majors with business and accounting—Math 156, CS 210 and 310; for the mathematics/computer science major—Math 124, 125, 204 and CS 210; for the physics/computer science major—Math 124 and CS 210. Students who are majors are given priority in registering for some of the 300-level classes. Registration for 400-level computer science classes is normally restricted to students who have been accepted as majors. The complete statement of the procedures can be obtained in Bond Hall 302 or by writing to the Department of Computer Science.

After being admitted to the major, a student is normally assigned to an adviser. Students who have not yet been accepted as majors are encouraged to seek advice in the departmental office, Bond Hall 302.

ADVICE TO FRESHMEN

Freshmen intending to major in computer science or computer science education should note that the first computer science course designed for majors is CS 210, with a prerequisite of pre-calculus. Students who are not ready for calculus should start their studies with a pre-calculus course, depending upon previous preparation. Information on the mathematics placement examination is available through the Mathematics Department which will determine the proper first mathematics course.

ADVICE TO TRANSFER STUDENTS

Computer science majors who

expect to enter Western from a two-year college should attempt to obtain certain mathematics and computer science courses at the two-year college. In particular, such students should take as many of the following mathematics courses as possible: linear algebra, discrete mathematics and three quarters of calculus. They should, if possible, learn to program in a higher level language, preferably Modula-2, although Pascal is acceptable. The equivalent of CS 210 should focus on the design of algorithms for problem-solving, in a rigorous, systematic fashion. In addition, the course should provide an introduction to the range of applications and areas that computer science touches. Those students who have followed a program of studies centered around data processing are welcome to the computer science program at Western. They will find, however, that a certain number of their courses will not apply toward a degree in computer science. For example, courses in BASIC or DOS will not apply toward a degree in computer science.

Transfer students must complete at this institution a minimum of nine upper-division credits for a major in the department or five upper-division credits for a minor in the department.

INFORMATION

A person interested in the study of computer science is welcome to write, phone, or visit the Department of Computer Science, Western Washington University, Bellingham, Washington 98225-9062. Phone (206) 676-3805.

COMPUTER SCIENCE FACULTY

- LARRY D. MENNINGA (1970) Chair.
Associate Professor. BA, University of Iowa; MA, MS, PhD, University of Washington.
- FRANÇOISE BELLEGARDE (1990) Associate Professor. BS, University Reims, MS, University Bordeaux; PhD, University Nancy.

Computer Science

GARY L. EERKES (1985) Associate Professor. BA, MS, Western Washington State College; MS, Washington State University; PhD, University of Oregon.

JAMES W. HEARNE (1986) Associate Professor. BA, MA, PhD, University of California.

FRED M. IVES (1971) Associate Professor. BA, MS, PhD, Washington State University.

JAMES L. JOHNSON (1981) Associate Professor. BS, University of Louisville; MS, PhD, University of Minnesota.

DEBRA S. JUSAK (1988) Assistant Professor. BA, State University of New York at Potsdam; MS, University of Connecticut. PhD, University of California, Irvine.

GEOFFREY B. MATTHEWS (1985) Associate Professor. BA, University of California; MA, PhD, Indiana University.

PHILIP A. NELSON (1987) Assistant Professor. BS, Pacific Union College; MS, University of California, Davis; PhD, University of Washington.

MARTIN L. OSBORNE (1977) Associate Professor. BA, Hamilton College; MA, University of Oregon; PhD, Oregon State University.

SAIM URAL (1979) Associate Professor. BS, MS, PhD, Middle East Technical University, Ankara.

PETER N. VAN DEN BOSCH (1986) Assistant Professor. BS, MS, PhD, University of British Columbia.

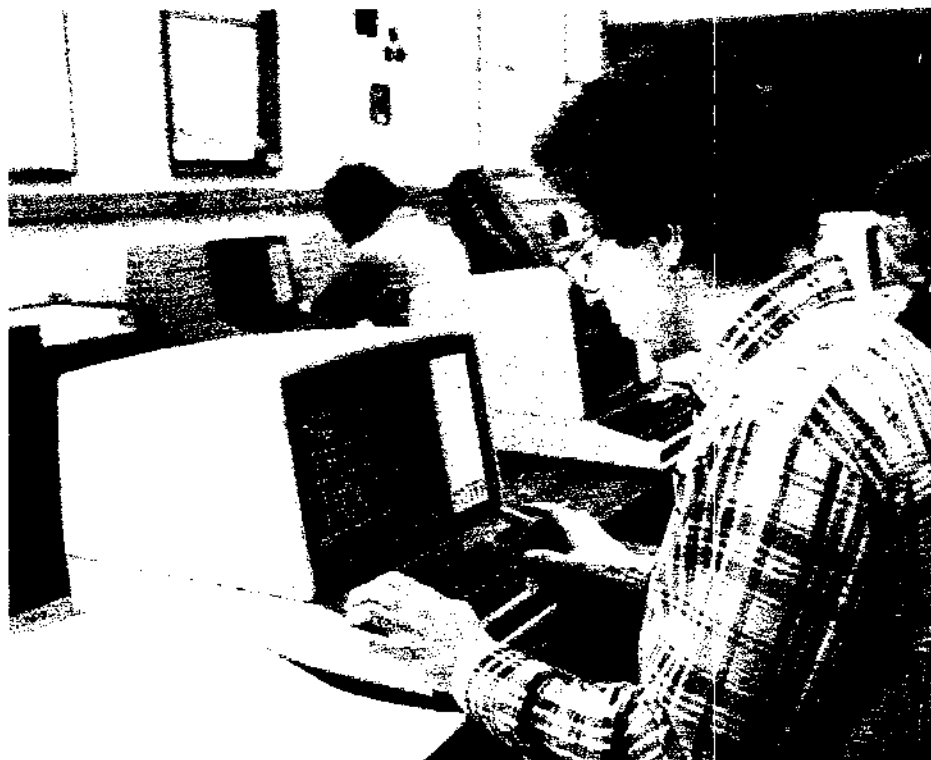
BACHELOR OF SCIENCE

Major — Computer Science

96 credits plus supporting courses

Students should note that because of the large number of credits required in this major, either their electives outside of the program will be relatively limited or more than four years will be required for the B.S. degree.

- CS 210, 310, 320, 331, 332, 401, 405, 410, 420, 425, 430, 460 plus 14 credits selected from CS 400, 402, 415, 417, 439, 450, 471, 480, Math-CS 335, 435, 436, 475, 476. A maximum of 6 credits from CS 400 special projects courses may be counted toward the major
- Four additional credits from CS 215, 216, 217
- Math 124, 125, 204, 226
- Math-CS 207, 208, 375
- A supporting sequence chosen from: Biol 121, 122, 321; Chem 121, 122, 123; Geol 211, 212, and



either 310, 314, 318 or 352; Physics 121, 122, 123; Tech 271, 272, 371

- Two additional courses of a supporting nature, each chosen by one of the two methods: (i) a course in the same discipline as the supporting sequence chosen above, but of a higher level; or (ii) a course from a different discipline than the supporting sequence chosen above, but restricted to the list above

Minor — Computer Science

28-29 credits

- CS 210, 310, 331, 332
- Math 124 or 157
- At least 8 additional credits of upper-division computer science courses

BACHELOR OF ARTS IN EDUCATION

The Bachelor of Arts in Education major can be completed with a concentration which prepares the graduate for teaching computer science on the secondary level. Those who intend to pursue this concentration must complete courses in structured programming in a variety of computer languages, assembly language, data structures, algorithm analysis, computer software and computers in society/education. Successful completion of these courses provides a good part of the training necessary for technical expertise in the classroom. Majors learn the methods of teaching computer science in CS 444.

Recommendation for teaching endorsement requires the completion of the major with a minimum grade point average of 2.50 in courses required for the major. To gain the Initial Teaching Certificate, students must also complete a program of studies in professional education, including student teaching. Students should seek formal admission to the appropriate program in

education early in their careers at Western and consult with an adviser in instructional technology. Because of anticipated low demand, it is strongly recommended that this program be taken in conjunction with another endorsable one. It is essential that the interested student consult the Department of Educational Curriculum and Instruction portion of this catalog for further information.

Major — Computer Science Education

65 credits

- Math 124, 204
- Math/CS 207, 208
- CS 210, 310, 320, 331, 332, 405, 425, 444
- EdAF 444, 452, 453
- Two courses chosen from: CS 401, 410, 420, 430, 450, 460, 480

Minor — Computer Science Education

32 credits

- CS 210, 310, 331, 332, 410, 444
- EdAF 444, 452, 453

Combined Majors

The Computer Science Department cooperates with other departments in offering combined majors for students wishing to achieve considerable depth in both areas.

Accounting/Computer Science: See the Accounting Department section of this catalog.

Business Administration/Computer Science: See the Finance, Marketing and Decision Sciences Department section of this catalog.

Mathematics/Computer Science: See the Mathematics Department section of this catalog.

Physics/Computer Science: See the Physics Department section of this catalog.

GRADUATE STUDY

For a concentration leading to the

Computer Science

Master of Science degree, see the Graduate School section of this catalog.

COURSES IN COMPUTER SCIENCE

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 101 PERSONAL COMPUTERS (3)
Study of personal computers. Microcomputer organization; hardware options; software options; relationship between hardware, operating system and application software; hands-on experience with standard packages, such as wordprocessing and spreadsheets. Laboratory.
- 110 ELEMENTARY PROGRAMMING (4)
Prereq: Math 102 or equivalent. Basic concepts of computer programming, using PASCAL. Not open to students who have credit in CS 210. Students who intend to take upper-division computer science courses should take CS 210. Laboratory.
- 115 COMPUTER APPLICATIONS (1-4)
Prereq: Math 102 or equivalent. Software tools and their applications. Topics and credits will vary (see the Timetable of Classes). Possible topics include database systems, expert systems, desktop publishing, applications of spread sheets. Repeatable with various topics.
- 210 COMPUTER SCIENCE FUNDAMENTALS I (4)
Prereq: Math 105 or equivalent. Overview of computer science. Algorithm design and implementation via a block-structured language. Algorithm expression, data typing and internal representation, programming constructs, sub-programs, parameter passing protocols, arrays. Introduction of proper software development technique. Intended as the first course for students who plan to continue with upper-level computer science. Laboratory.
- 215 PROGRAMMING LANGUAGE LABORATORY (1-3)
Prereq: CS 210 or equivalent. Students who already know how to program may take this course to learn additional programming languages. May be repeated for credit in different languages. Credit is determined on the basis of the programming language studied. S/U grading.
- 216 FORTRAN (1)
Prereq: CS 110 or 210. Programming using the FORTRAN language. S/U grading.
- 217 COBOL (3)
Prereq: CS 110 or 210. Programming using the COBOL language; emphasis on file handling.
- 280 COMPUTER GRAPHICS ON PERSONAL COMPUTERS (4)
Prereq: CS 110 or 210 or equivalent. Microcomputer interactive graphics systems, standards, hardware and software; graphics fundamentals; design and implementation of graphics programs; development of graphical user interfaces; icons; windows; pull-down menus; computer generation of simple images; graphics algorithms; paint and presentation systems.
- 310 ASSEMBLER LANGUAGE PROGRAMMING (4)
Prereq: CS 210. Computer structure; data representation; assembly language; addressing techniques; program segmentation and linkage; macros and conditional assembly; accessing operating system services including I/O; structure of assemblers.
- 320 COMPUTER LABORATORY (4)
Prereq: CS 310 or equivalent. Machine level programming; input/output; interrupts; device controllers; implementing system primitives.
- 331 COMPUTER SCIENCE FUNDAMENTALS II (4)
Prereq: CS 210, Math 124. Continuation of CS 210. Records, stacks, queues, linked lists, trees. Recursion, internal sorts. Introduction to abstract data types and to algorithm efficiency measurement. Laboratory.
- 332 COMPUTER SCIENCE FUNDAMENTALS III (4)
Prereq: CS 331. Continuation of CS 331. Advanced data structures. Balanced trees, graphs, external sorts, file organizations, hash tables. Complexity measurement. Software engineering via programming project.

All computer science majors are required to complete Math-CS 208 prior to registration for 400 level computer science courses.

- 401 COMPUTABILITY AND AUTOMATA (4)
Prereq: CS 332. Computability, recursive functions, grammars and their accepting automata.
- 402 ARTIFICIAL INTELLIGENCE (4)
Prereq: CS 332. Introduction to knowledge representation and search. Possible application areas include natural language, perception, learning and expert systems.

405. DESIGN AND ANALYSIS OF ALGORITHMS (4)
Prereq: CS 332. Derivation of time and space complexity of algorithms. Typical algorithms investigated include sorts, graph traversals, string matching. Algorithm paradigms: divide and conquer, greedy algorithms, backtracking, branch and bound. Discussion of NP-completeness. Correctness proofs of algorithms.
- 410 PROGRAMMING LANGUAGES (4)
Prereq: CS 310, 332, and experience in two higher-level languages. Introduction to the structure of programming languages: syntax and semantics; properties of algorithmic languages, special purpose languages.
- 415 BUSINESS COMPUTER SYSTEMS (4)
Prereq: CS 217, 332, Acctg 241. Components of a business computer system (accounts receivable, accounts payable, etc.), controls, systems flowcharting, programming project.
- 420 COMPUTER ORGANIZATION (4)
Prereq: CS 320 and Math-CS 208. Digital logic; arithmetic logic; control unit logic; microprogramming; memory and addressing logic; input/output logic; computer architectures.
- 425 HISTORICAL AND SOCIAL ASPECTS OF COMPUTING (3)
Prereq: senior status. Historical development of computing machines and concepts; social implications of computers.
- 430 DATABASE THEORY (4)
Prereq: CS 332. Data structures required for the flexible representation of data relationships. Models used in database design, including semantic data model, entity-relationship model, relational model and the CODASYL network model. Query languages. Theory of functional dependencies, normal forms of relations. Programming projects.
- 439 COMPUTER MODELING AND SIMULATION (4)
Prereq: Math 124 or 157, CS 110 or 210, college-level statistics. Basic concepts of dynamic modeling and system simulation, design and methodology of simulation models, model validation, simulation languages, application to decision making.
- 444 TEACHING COMPUTER SCIENCE IN THE SECONDARY SCHOOL (3)
Prereq: admission to secondary teaching program, EdAF 444 and at least two upper-division computer science courses. Study of literature, curriculum, planning and strategies in the teaching of computer science.

- 450 COMPILER THEORY AND DESIGN (4)
Prereq: CS 310, 332, experience in two higher-level languages. Theory and practice of compiler design. Emphasis is on basic theory and methods necessary to design and implement a functional syntax-directed compiler.
- 460 OPERATING SYSTEMS (4)
Prereq: CS 332 and 420. (The latter may be taken concurrently.) Principles of operating systems; concurrent processes; resource management; process management; file systems; protection.
- 471 SYSTEMS ANALYSIS, DESIGN, AND IMPLEMENTATION (3)
Prereq: CS 415. Steps in analysis and design, planning tools, cost analysis, implementation analysis and post-implementation analysis and long-range systems planning. The discussion of design and implementation emphasizes computerized systems.
- 480 COMPUTER GRAPHICS (4)
Prereq: CS 332 and Math 204. Overview of the hardware, software and techniques used in computer graphics; raster display devices; input devices, display files; 2D and 3D transformations; windowing; clipping; simple surface rendering.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 COMPLEXITY THEORY (4)
Prereq: CS 401 or equivalent. Topics selected from: models of computation, decidability, reducibility, the time-space hierarchy, non-determinism, the polynomial hierarchy, and parallel complexity.
- 505 SEMANTICS OF PARALLEL COMPUTATIONS (4)
Prereq: CS 401 or equivalent. The principal models of parallel computations relevant to the design and specification of parallel computer systems and to the formal definition of parallel programming languages.
- 520 ADVANCED COMPILER DESIGN (4)
Prereq: CS 401, CS 450, or any graduate level course involving work with formal languages. Theory and practice of compiler design. Detailed consideration of efficient parsing techniques; organization of semantic analysis and code generation phases; machine dependent and independent optimization techniques; organization of runtime environment.

Computer Science

- 525 **ADVANCED TOPICS IN OPERATING SYSTEMS (4)**
Prereq: CS 460 or equivalent. Topics from: interprocess communication, resource management, security, distributed operating systems, process models for distributed systems, real-time operating systems, formal models applicable to operating systems.
- 530 **ADVANCED DATABASE THEORY (4)**
Prereq: CS 430 or equivalent. Transaction processing, recovery, security. Query optimization. Distributed systems, logic-based systems, object-oriented systems.
- 532 **PROGRAMMING ENVIRONMENTS (4)**
Prereq: CS 450 or equivalent. Aspects of the study of programming languages other than syntax, semantics and compilers. Topics include intermediate representation, interpreters, portability, support environments, interactive verification and debugging.
- 535 **FUNCTIONAL PROGRAMMING (4)**
Prereq: CS 401 or equivalent. Programming as a mathematical activity, and program development through the application of algebraic laws. Application of program transformation to optimization. Lambda calculus foundations of functional computing.
- 538 **OBJECT-ORIENTED COMPUTING (4)**
Prereq: graduate status or permission. Object-oriented programming plus an examination of object-oriented concepts applied to programming languages, applications, and database systems. Architectural issues in OOP systems and directions for future research and development in OOP concepts and systems.
- 550 **MICROPROCESSOR SYSTEM DESIGN (4)**
Prereq: CS 420 or equivalent. Design of digital systems using microprocessors as controlling elements. Comparison of microprocessor architectures and system bus structures. Microprocessor communications and interfacing. Software/hardware tradeoffs.
- 555 **ADVANCED COMPUTER ARCHITECTURES (4)**
Prereq: CS 420 or equivalent. Memory hierarchy organization and management, pipelining, multiprocessors, new architectures.
- 560 **VERY LARGE SCALE INTEGRATION (4)**
Prereq: CS 420 or equivalent. Design of VLSI circuits. Physical technologies. Modeling tools. Silicon compilers. Chip simulation.
- 561 **VLSI DESIGN PROJECT (4)**
Prereq: CS 560 or equivalent. Design of digital circuitry appropriate for VLSI chip layout. Includes chip fabrication and testing when resources are available.
- 565 **COMPUTER COMMUNICATIONS NETWORKS (4)**
Prereq: permission of instructor. Electronics of the physical layer through high level representations of the abstract layers of communications protocols. Network architectures, dataflow models and analysis, local area networks, industry standards.
- 570 **ARTIFICIAL INTELLIGENCE (4)**
Prereq: permission of instructor. Advanced topics in artificial intelligence. Possible areas include knowledge representation, LISP or PROLOG, search strategies, heuristics, goal refinement, theorem proving, and symbolic problem solving.
- 573 **COMPUTATIONAL LINGUISTICS (4)**
Prereq: graduate status or permission. Formal and computational models of the syntax, semantics and pragmatics of natural languages; rival approaches to semantic and pragmatic representation; applications to database queries and machine translation.
- 578 **CRYPTOGRAPHY (4)**
Prereq: graduate status or permission. Selected topics from number theory; simple, homophonic, polyalphabetic substitution ciphers; product ciphers; DES; exponentiation ciphers; knapsack ciphers; key management.
- 580 **ADVANCED COMPUTER GRAPHICS (4)**
Prereq: CS 480 or equivalent. Three dimensional concepts, shading techniques, curves and surfaces, ray tracing, radiosity, texture mapping, fractals.
- 585 **IMAGE PROCESSING (4)**
Prereq: graduate status or permission. Digital image fundamentals, image transforms, image enhancements, image restoration, image encoding, representation and description.
- 690 **MASTER'S THESIS (1-12)**
Prereq: appointment of thesis adviser and committee. S/U grading.
- 691 **MASTER'S PROJECT (1-8)**
Prereq: appointment of project adviser and committee. Software/hardware project for non-thesis option. S/U grading.

East Asian Studies

East Asia plays a vital role in present-day global affairs. Half of humankind lives in this region, which is becoming increasingly important in world economics and politics. The Center for East Asian Studies provides a focal point for interaction with East Asia and for studies of the region.

The program in East Asian studies stresses the interdisciplinary study of the region and is designed to attain three objectives. First, it offers students an opportunity to acquire accurate, detailed and comprehensive knowledge of a region which is increasingly important in world affairs. Second, it prepares students who are attracted by the growing job opportunities related to East Asia in business and government or who wish to teach courses on East Asia in community colleges and high schools. Third, it provides solid undergraduate training for students who plan to enter East Asian graduate studies at Western or elsewhere.

Students interested in pursuing the Student/Faculty-Designed Major: East Asian Studies with one of the options listed here should consult with the Center for East Asian Studies program adviser. Students with East Asian interests not covered by the listed options should contact the Department of Liberal Studies for details.

PARTICIPATING FACULTY

For further information and advisement, consult Dr. Linda Kimball, Anthropology, (206) 647-4783, program adviser; or the director of the Center for East Asian Studies.

James Hearne, Interim Director, Computer Science. Chinese philosophy.

Michael H. Fisher, Liberal Studies. Origins of Buddhism, South Asia, historical interaction between Europeans and Asians.

Paul C. Glenn, Fairhaven College. Asian art and religion.

Edward H. Kaplan, History. Ancient and medieval China, Chinese economic history.

Linda Amy Kimball, Anthropology. Anthropology, Southeast Asia, linguistics, traditional Chinese medicine, Tibet.

John C. McClendon, Fairhaven College. Modern politics and history in Japan, China and the Pacific Rim.

Robert C. Marshall, Anthropology. Anthropology, Japan, business, economy and politics of Japan.

Debnath Mookherjee, Geography. Cultural geography, urbanism, East and South Asian Geography.

Henry G. Schwarz, History. Mongolian and modern Chinese history, the minorities of Northern China.

Thomas Schlotterback, Art. Asian art.

Kathleen Tomlonovic, Foreign Languages. Chinese language and literature.

Michiko Yusa, Foreign Languages. History of religion, Japanese language and culture.

BACHELOR OF ARTS

Student/Faculty-Designed Major: East Asian Studies

60 credits

Core courses (required by all students):

- One year of Chinese, Japanese, Korean or Mongolian language (15 cr)
- One of the following options:
 - East Asian 201 and 202
 - Hist 280 plus one of the following: Anth 362, Lbrl 272, 273, 274
- Additional credits distributed according to one of the following options (only Options I and II are recommended for those con-

East Asian Studies

templating graduate work in East Asian studies)

Option I

- Second and third year of Chinese, Japanese, or Korean (up to 30 cr)
- Remainder of credits distributed under advisement among those courses listed below as approved by the Center. Most of these credits should be in courses dealing with the country whose language the student is learning

Option II

- Second year of Chinese, Japanese, Mongolian or Korean (15 cr)
- Remainder of credits should be distributed under advisement among the courses listed below as approved by the Center. Most of these credits should be in courses dealing with the country whose language the student is learning

Option III

- Courses on China, Japan, Korea, and Mongolia from the approved list distributed as follows: four courses on one country; three courses on a second country; two courses on a third and fourth country
- Electives from the approved list to bring total credits (core plus Option III) to 60 credits

Minor — East Asian Studies

30 credits

The following minor may be combined with a major in history or in political science for a major concentration, or may be elected as a minor by majors in other fields. For description of courses, see the sections of cooperating departments.

- At least one of the following: East Asian 201, 202; Hist 280; Anth 362
- Remaining credits to be selected from the following list of courses in East Asian Studies and courses from other parts of the University approved by the Center faculty.

COURSES IN EAST ASIAN STUDIES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 201 THE CULTURES OF EAST ASIA: POLITICAL-MATERIAL ASPECTS (5)
The political, economic and social aspects of the evolution of civilization in China, Japan, Korea and Mongolia from earliest times to the present.
- 202 THE CULTURES OF EAST ASIA: RELIGIO-PHILCSOPIC AND LITERARY ASPECTS (5)
The religions, secular intellectual and literary aspects of the cultures of China, Japan, Korea and Mongolia, and the influence of these aspects of culture on political life from earliest times to the present.
- 210 INTRODUCTION TO NOMADIC CIVILIZATIONS (4)
An introductory survey of the art, architecture, languages, literature, music, peoples and religions of Northern and Central Asia.
- 313 EARLY MONGOLIA (4)
Prereq: East Asian 210. The history, society and culture from the early steppe confederations to the Mongol world empire.
- 314 POST-EMPIRE MONGOLIA (4)
Prereq: East Asian 210. History, society and culture since the end of the Mongol world empire.
- 367 THE LITERATURES OF EAST ASIA IN TRANSLATION (5)
Selected readings in Chinese, Japanese, Korean and Mongolian literary masterpieces from earliest times to early modern times.
- 368 THE LITERATURES OF EAST ASIA IN TRANSLATION (5)
Selected readings in Chinese, Japanese, Korean and Mongolian literary masterpieces from early modern times to the present.
- 400 DIRECTED INDEPENDENT STUDY (1-5)
- 465 PEOPLES OF INNER ASIA (3)
Prereq: East Asian 210 or Anth 201 or equivalent or permission of instructor. Ethnographic in-depth study of the present and past peoples and cultures of Inner Asia. Emphasis on special topics including ecology, economics, language, religion and society.



Courses from other parts of the University approved for inclusion in the East Asian studies major or minor are:

- Anth 362, 424, 425, 464
- Art Hist 270, 370, 470, 471
- Chinese 101, 102, 201, 202, 203, 300, 301, 302, 303
- East Asian 201, 202, 210, 313, 314, 367, 368, 400, 465
- AmSt 205
- Fairhaven 251, 312 (limited to one time only)
- Geog 315
- Hist 280, 370, 371, 372, 390 (relevant topics), 480, 481, 482, 483, 484, 485, 499 (relevant topics)

- Japanese 101, 102, 103, 201, 202, 203, 300, 301, 302, 303
- Lbrl 272, 273, 274, 275, 370, 371

The Center for East Asian Studies also offers tutorials in advanced Chinese, advanced Japanese and advanced Korean. Elementary and intermediate Mongolian (15 credits each) are taught summers at Inner Mongolia University.

East Asian Studies students may also spend up to one year at Asia University, Tokyo; Tsuda College, Tokyo; Inner Mongolia University, Hohhot; or Foreign Language University, Beijing.

English

The English major is one of the central liberal arts degrees. In addition to engaging students in our literary heritage, it fosters the development of sophisticated abilities in analysis, reading, effective communication and expression. These abilities provide graduates with a sound basis for pursuing careers in law, business, publishing and government.

The Department of English offers majors for the liberal arts student and for the teacher education student.

Two programs lead to the Bachelor of Arts in English. One focuses on the study of British and American literature in an historical context and, then, through a large number of elective credits, allows students to select English courses of their choice. The other program is a writing concentration. Here courses in literature supplement a focus on writing courses, either creative writing (fiction, drama, poetry) or non-fiction prose, exposition and argumentation.

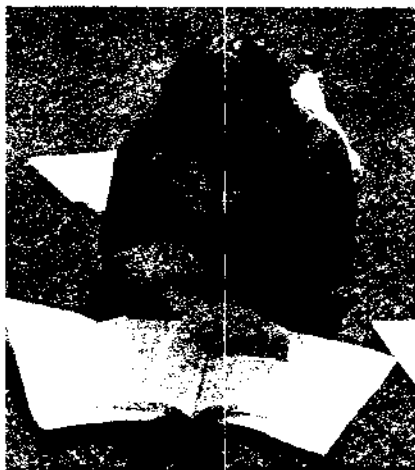
In teacher education, the department prepares majors for teaching at the secondary and the elementary levels. Students are urged to support their major by means of auxiliary courses in drama, reading, linguistics, speech, journalism, history and computer science, or work in other subjects that are related to English language and literature.

The Department of English is committed to enhancing the diversity of its faculty, students and curriculum. The literature of women and minorities is taught in survey and historical period courses as well as in courses devoted to women and minority writers.

ENGLISH FACULTY

RICHARD K. EMMERSON (1990) Chair.
Professor. BA, Columbia Union College;
MA, Andrews University; PhD, Stanford
University.

- BONNIE J. BARTHOLD (1980) Professor. BA, University of Arizona; MA, Ohio State University; PhD, University of Arizona.
- ROSANNE D. BRUNTON (1990) Assistant Professor. BA, M.Phil, University of the West Indies, Trinidad; PhD, Pennsylvania State University.
- MEREDITH B. CARY (1934) Professor. BA, Central Missouri State College; MALS, University of Michigan; MA, Michigan State University; PhD, University of Washington.
- OMAR S. CASTAÑEDA (1990) Assistant Professor. BA, MFA, Indiana University.
- MARY COBB (1987) Assistant Professor. AB, Oklahoma Baptist University; MA, PhD, University of Washington.
- MARJORIE J. DONKER (1967) Professor. BA, Western Washington State College; MA, PhD, University of Washington.
- RICHARD L. FRANCIS (1969) Professor. AB, Kenyon College; MA, Duke University; PhD, Yale University.
- INGRID HILL (1991) Assistant Professor. BA, MA, University of Michigan; PhD, University of Iowa.
- KENNETH B. INNIS (1966) Associate Professor. AB, AM, Indiana University; PhD, University of Kansas.
- ELLWOOD G. JOHNSON (1963) Professor. BA, MA, PhD, University of Washington.
- WILLIAM C. KEEP (1966) Associate Professor. BA, PhD, University of Washington.
- LAWRENCE L. LEE (1962) Professor. BA, MA, PhD, University of Utah.
- MERRILL E. LEWIS (1962) Professor. BA, MA, University of Oregon; PhD, University of Utah.
- ANNE LOBECK (1990) Assistant Professor. BA, Whitman College; MA, PhD, University of Washington.
- KATHLEEN LUNDEEN (1991) Assistant Professor. BA, MA, PhD, University of California, Santa Barbara.
- JOHN B. MASON (1986) Associate Professor. BA, University of Northern Colorado; MA, DA, PhD, University of Oregon.



- GEORGE M. MULDROW (1960) Professor. B.J. MA, University of Missouri; PhD, Stanford University.
- DOUGLAS B. PARK (1979) Professor. AB, Hamilton College; PhD, Cornell University.
- JOHN PURDY (1991) Assistant Professor. BA, Western Oregon State College; MA, University of Idaho; PhD, Arizona State University.
- KNUTE SKINNER (1962) Professor. AB, Colorado State College; MA, Middlebury College; PhD, State University of Iowa.
- WILLIAM E. SMITH (1990) Associate Professor. BA, MA, Appalachian State University; PhD, University of Utah.
- KEN M. SYMES (1967) Professor. BA, MA, Utah State University; PhD, University of New Mexico.
- EVELYN C. WRIGHT (1972) Associate Professor. BS, Illinois State University; MA, PhD, Northwestern University.

BACHELOR OF ARTS

Major — English 55 credits

- Eng 304
- Two courses from Eng 306, 307, 308
- Two courses from Eng 309, 310, 311
- Two courses from Eng 317, 318, 319
- One course from Eng 404, 405
- One course from Eng 370, 436, 438, 439

Electives must be taken at the 300 and 400 levels, with at least 12 credits at the 400 level.

Major — English — Writing

Concentration 60 credits

- Eng 304
- 24 credits in literature at the 300 or 400 level
- Two of the following: Eng 301, 351, 353, 354, Th A 285 (or Th A 385)
- 12 credits from one of the following four groups:
 - Eng 451, 455, 457
 - Eng 453, 455, 456
 - Eng 401, 402, 454, 455
 - Th A 485, 486, 487, 488; Eng 455

(Eng 451, 453 and 454 may be repeated for a total of three times with a limit of one course per quarter.)

- One additional upper-division writing course in English or another department
- Electives in English (Eng 370 recommended)

Minors

A. English 24 credits

- Eng 304
- Electives to total 24 credits, with a minimum of twelve of the elective credits at the 300-400 level.

Students may choose among English courses to complete the elective requirements of the minor. Those students who wish to concentrate elective credit in one area may do so; for example, elective courses might be selected with emphasis on American literature, British literature, rhetoric, or expository writing.

B. Creative Writing 24 credits

- Four creative writing courses including work in at least two genres
- Electives under advisement from the 300 and 400 levels

C. Women's Literature 24 credits

- Eng 304
- Two courses from Eng 341, 424, 425
- Electives under advisement, to be selected from courses in women writers, topics focused on the work of women writers, and topics in language and power or gender

BACHELOR OF ARTS IN EDUCATION

Major — English —

Secondary 64 credits

Completion of this major will lead to a primary endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 436, 438, 443, 444
- Eng 423 (Shakespeare)
- Two courses at the 300 or 400 level in British Literature

English

- One of the following: Eng 281, 282, 283, 335, 336, 339, 415, 429
- Eng 317
- One additional course in American literature at the 300 or 400 level
- One of the following: Eng 301, 351, 353, 354, 401
- One of the following: Eng 327, 330, 338, 341, 422, 424, 425 or other appropriate course
- Electives (Eng 364 recommended)

The department strongly recommends that students include courses in literary theory and criticism in their electives.

Major — English —

Elementary 45 credits

This major must be taken in combination with the elementary or special education professional program. Completion of this major will lead to a Western approved supporting endorsement in English.

- Eng 304, 370, 440, 441
- Eng 442 (or another 400-level language course)
- One course in American literature at the 300 or 400 level
- One course in British literature at the 300 or 400 level
- One of the following: Eng 301, 351, 353, 354, 401
- One of the following: Eng 327, 330, 338, 341, 422, 424, 425 or other appropriate course
- One of the following: Eng 336, 339, 406
- Electives (Eng 364 recommended)

Students should consult the English education faculty adviser for distribution of electives, and should consult the elementary program adviser for teacher certification requirements.

Interdisciplinary Major

Concentrations

English/Communication 93-94 credits

(English 49 credits and Communication 44-45 credits)

Completion of this major will lead to primary endorsements in English and speech when taken in combination with a professional education program.

English 49 credits

- Eng 304
- Eng 370, 436, 443, 444
- Eng 423 (Shakespeare)
- Two courses in British literature at the 300 or 400 level
- One of the following: Eng 281, 282, 283, 335, 336, 339, 415, 429
- One of the following: Eng 301, 351, 353, 354, 401
- Eng 317
- An additional course in American literature at the 300 or 400 level
- Electives

Communication 44-45 credits
(See the Communication Department section of this catalog.)

English/Theatre 94 credits (Theatre 45 credits and English 49 credits)

Completion of this major will lead to primary endorsements in English and drama when taken in combination with a professional education program.

English 49 credits

- Eng 304
- Eng 370, 436, 443, 444
- Eng 423 (Shakespeare)
- Two courses in British literature at the 300 or 400 level
- One of the following: Eng 281, 282, 283, 335, 336, 339, 415, 429
- One of the following: Eng 301, 351, 353, 354, 401
- Eng 317
- An additional course in American literature at the 300 or 400 level
- Electives

Theatre 45 credits
(See the Theatre Arts Department section of this catalog.)

Teaching Endorsement

Recommendation for an endorsement in teaching secondary English normally requires completion of the Bachelor of Arts in Education, secondary major, or of the interdisciplinary major concentrations. A grade point average of 3.0 or better in English is required.

Recommendation for a supporting endorsement in teaching secondary English requires completion of either of the following minors. A grade point average of 3.0 or better in English is required.

Program Standards

In certain situations the English education adviser may call a case conference, involving public school faculty and/or faculty acquainted with a student and a student's work, to determine his/her qualification for admission or retention in the Bachelor of Arts in Education program.

Minor

English — Supporting Endorsement — Secondary 36 credits

Completion of this minor will lead to a supporting endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 436, 443, 444
- One of the following: Eng 301, 351, 353, 354, 401
- One elective in British literature 300 or 400 level
- One elective in American literature 300 or 400 level
- One of the following: Eng 281, 282, 283, 335, 336, 339, 415, 429

English — Elementary Education 28 credits

Completion of this minor will lead to a supporting endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 441
- Eng 442 (or another 400-level language course)
- One course from Eng 301, 351, 353, 354, 401

- One course in American literature at the 300 or 400 level
- One course in British literature at the 300 or 400 level

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an English major who wishes to graduate "with honors" must complete Eng 339, 401, and 405, and an upper-division course in philosophy or in literature read in a foreign language.

THE VERTICAL COMPOSITION PROGRAM

These courses are designed to allow the student to improve writing skills progressively throughout the four years of college. They do not constitute a minor; they are available to anyone interested. The courses consist of Eng 101, 201, 202, 301, 354, 401.

GRADUATE STUDY

For a concentration leading to the Master of Arts degree, see the Graduate School section of this catalog.

COURSES IN ENGLISH

Courses numbered X37; X97: 300, 400; 417, 445 are described on pages 38-39 of this catalog.

General University Requirement Courses

English courses which satisfy GUR requirements are as follows:

Communications: 101, 201, 202, 301

Humanities: 214, 215, 216, 238, 281, 282, 283, 336

Non-Western and Minority Culture Studies: 234, 335, 338

The following entries indicate courses routinely offered by the department. The lettered sub-heads offer examples of some but not all of the sections of these courses that will be offered during the period of this catalog. For more information about the courses and sections to be offered this year and next, please consult the Timetable of Classes, the English Department's "Course Descriptions" and the "Guide for English Majors." The department makes every effort to offer all required courses at least once a year and all courses in the catalog at least once every two years.

English

- 100 REVIEW OF SYNTAX AND USAGE (5)**
Emphasizes a basic command of standard written English such as correct usage and punctuation, sound sentence and paragraph structure, and avoidance of errors in diction. S/U grading.
- 101 LANGUAGE AND EXPOSITION (4)**
May not be taken concurrently with English 100. A course in writing expository prose on topics drawn from personal experience or assigned reading. Practice in strategies for finding information, focusing on a topic, organizing a thesis, developing an idea, evaluating and revising preliminary drafts, summarizing written information; practice in writing the in-class essay. Students needing to satisfy Block A of the communications section of the General University Requirements are required to do so prior to completion of 45 credits.
- 201 EXPOSITORY WRITING (4)**
Prereq: Eng 101. An intermediate course in writing expository prose, with readings from various disciplines.
- 202 WRITING ABOUT LITERATURE (4)**
Prereq: Eng 101. Focuses on writing academic responses to a variety of literary texts. Students learn to read and write critically, articulating their responses to representative genres through summaries, reviews, critiques and analyses.
- 214 INTRODUCTION TO SHAKESPEARE (5)**
Reading and discussion of a selected number of Shakespeare's plays: histories, comedies, tragedies and romances.
- 215 SURVEY OF BRITISH LITERATURE (5)**
Reading and discussion of major works from each of the recognized periods of British literature with some attention to the historical context of the work.
- 216 SURVEY OF AMERICAN LITERATURE (5)**
An overview of American literature and thought from 1620 to 1940.
- 234 INTRODUCTION TO AFRICAN-AMERICAN LITERATURE (4)**
Reading and discussion of selected novels, plays, poems and essays by African-American men and women writers from the 18th century to the present.
- 238 SOCIETY THROUGH ITS LITERATURE (5)**
A thematic approach to literature. Different themes will be treated from year to year, showing with various literary forms present society and its problems. May be taken only once for GUR credit.
- 251 INTRODUCTION TO CREATIVE WRITING (4)**
Prereq: Eng 101. Examines the fundamentals and vocabulary of principal modes of creative writing: fiction, poetry, non-fiction prose. Par: large lecture and part workshop for actual writing experience.
- 281. 282. 283. WESTERN WORLD LITERATURE (5 ea)**
Readings from classical, medieval to neo-classical, and romantic to modern literature. Not open to students with credit in Lib St 121, 122, 123.
.....
For English majors and minors, all upper-division literature courses have English 304 as a prerequisite.
.....
- 301 ADVANCED COMPOSITION (4)**
Prereq: Eng 101 or equivalent. Deals with issues of audience, style, and the conventions of private, public, and academic discourse; explores assumptions, contexts, and rhetorical situations as defined by various writing communities. Emphasis on expressive, argumentative, speculative and evaluative writing as appropriate.
- 304 CRITICAL INTRODUCTION TO POETRY (4)**
Prereq: Eng 101 or equivalent. The course introduces the prospective English major to the vocabulary and grammar of technical discourse about poetry through the close reading of a variety of poetic texts and the writing of a number of expository essays.
- 306 BRITISH LITERATURE: MEDIEVAL (4)**
- 307 BRITISH LITERATURE: RENAISSANCE (4)**
- 308 BRITISH LITERATURE: 18TH CENTURY (4)**
- 309 BRITISH LITERATURE: ROMANTIC (4)**
- 310 BRITISH LITERATURE: VICTORIAN (4)**
- 311 BRITISH LITERATURE: MODERN (4)**
- 317 AMERICAN LITERATURE: BEGINNINGS TO 1860 (4)**
- 318 AMERICAN LITERATURE: 1860-1920 (4)**
- 319 AMERICAN LITERATURE: 1920 TO PRESENT (4)**

- 327 **STUDIES IN MINORITY AMERICAN LITERATURE (4)**
Reading and discussion of texts from within or among distinct minority communities with varying topics. Repeatable with various studies.
- 330 **SURVEY OF NATIVE AMERICAN LITERATURES (4)**
Comparative study of various tribal and pan-Indian literatures, including traditional oral texts in bilingual format and early and contemporary works by Native authors in English.
- 335 **POST-COLONIAL LITERATURES (4)**
Prereq: Eng 101. Comparative study of the new literatures which have emerged since World War II in Africa, India, Middle East and/or West Indies.
- 336 **THE BIBLE AS LITERATURE (5)**
Prereq: Eng 101. Cultural backgrounds of the Old and New Testaments, together with a literary analysis of selected passages.
- 338 **WOMEN AND LITERATURE (4)**
Prereq: Eng 101. A study of major works by women including their treatment of intellectual and cultural issues.
- 339 **CLASSICAL BACKGROUNDS TO BRITISH LITERATURE (5)**
Study of the major epics, lyrics, dramas, and dialogues of Greek and Roman literature as they have provided models, themes and techniques for poets, playwrights and novelists.
- 340 **STUDIES IN GENRES AND FORMS (4)**
A wide variety of studies in fiction, drama, poetry, non-fiction and traditional forms. Repeatable with various studies.
- 341 **TOPICS IN THE HISTORY OF WOMEN'S LITERATURE (4)**
Prereq: Eng 101. Focuses on specific issues in the history of women's literature, including the history of women's contribution to formal and informal literary discourses. Repeatable with various topics.
- 351 **INTRODUCTION TO FICTION WRITING (4)**
Prereq: Eng 101. An introductory course open to students who have not previously taken a college course in fiction writing. Study of appropriate models.
- 353 **INTRODUCTION TO POETRY WRITING (4)**
Prereq: Eng 101. An introductory course in poetry writing. Open to students who have not previously taken a college course in poetry writing. Study of appropriate models.
- 354 **INTRODUCTION TO THE WRITING OF NON-FICTION PROSE (4)**
Prereq: Eng 101. Opportunity for writers to develop creative writing skills on a mature level, emphasizing the literary effects of language. The personal essay, biographical sketch, extended argument and other forms.
- 364 **LITERATURE AND FILM (4)**
Prereq: Eng 101. Examines the relationship between literature and film in various literary forms, genres, periods and authorial approaches. Repeatable with various topics.
- 370 **INTRODUCTION TO THE STUDY OF THE ENGLISH LANGUAGE (4)**
Prereq: Eng 101. Introduction to the structure, history and use of the English language. Includes fundamentals of linguistic analysis (phonology, morphology, syntax, semantics and pragmatics), historical development of English, developmental patterns of language acquisition, and regional and social language variation.
- 371 **INTRODUCTION TO RHETORIC (4)**
Prereq: Eng 101. Studies major issues in classical and modern rhetoric. Rhetorical analysis of a variety of texts.
- 375 **SEMINAR FOR WRITING FELLOWS: TUTORING ACROSS THE CURRICULUM (3)**
Prereq: selection as a Writing Fellow. Examines theories of teaching writing and provides training for undergraduate Writing Fellows selected to work in Western's writing-across-the-curriculum program. Helps Fellows become accomplished readers of student writing and effective tutors for students writing in all disciplines. S/U grading.
- 401 **SENIOR WRITING SEMINAR (4)**
Prereq: Eng 101 and senior status: restricted to English majors and minors. Theory and practice of writing with clarity and style for public and professional occasions.
- 402 **TECHNICAL AND BUSINESS REPORT WRITING (4)**
Prereq: Eng 101 and upper-division status. Theory and practice of writing with objectivity and clarity for business, industry and government.
- 404 **THEORY OF LITERATURE (4)**
The nature and judgment of literature as a form of art; various critical approaches to literary interpretation; writing of critical studies.

English

- 405 HISTORY OF LITERARY CRITICISM (5)
Prereq: 15 credits in literature. Reading and analysis of major documents of criticism, from Plato and Aristotle to 20th century critics.
- 406 TOPICS IN LITERARY THEORY (4)
Examines one or more approaches to the study of literature, including feminist, mythic, new-historicist, political, psychoanalytical, structuralist and others. Repeatable with various topics.
- 410 STUDIES IN LITERARY HISTORY (2-5)
A wide variety of studies in literary history. Repeatable with various topics.
- 413 HISTORY OF THE BRITISH NOVEL (5)
History of the British novel from the 18th century to the 20th century.
- 414 HISTORY OF THE AMERICAN NOVEL (5)
History of the American novel from the 18th century to the 20th century.
- 415 STUDIES IN NATIONAL LITERATURES (4)
Studies in national literatures, such as the literature of Ireland and Canada; explores writers other than British and American writers. Repeatable with different national literatures.
- 422 AFRICAN-AMERICANS AND THE LITERARY IMAGINATION (4)
Prereq: Eng 101. Comparative study of texts by both black and white American writers in the context of contemporary literary theory and an African-American literary tradition.
- 423 STUDIES IN MAJOR AUTHORS (2-5)
Studies in women and men major authors writing in English. Repeatable with different authors.
- 424 STUDIES IN MAJOR WOMEN AUTHORS (4)
Studies in British, American and other women writers. Repeatable with different authors.
- 425 STUDIES IN MINORITY WOMEN AUTHORS (4)
Prereq: Eng 101 and permission of instructor. Studies of minority women writers of North and South America, the Caribbean, and the Third World. Focuses on literary conventions specific to the particular environment and to women's writing, and on differences of gender, race and class. Repeatable with different authors.
- 429 LITERATURE IN TRANSLATION (4)
Studies of literature in translation from classical to modern times. Repeatable with various topics.
- 436 THE STRUCTURE OF ENGLISH (4)
Prereq: Eng 370 or permission of instructor. Introduction of syntactic analysis and its application to texts. Topics include the structure of sentences, modification, complementation and nominalization. Analysis of various types of written and spoken English to understand syntactic variation reflected in different dialects and styles.
- 438 CULTURAL HISTORY OF ENGLISH (4)
Prereq: Eng 370 or permission of instructor. Considers texts in Old, Middle, Modern, and present-day Englishes as reflective of cultural values, literary practice and linguistic change.
- 439 TOPICS IN LANGUAGE AND LINGUISTICS (4)
Prereq: Eng 370 may be required depending on topic. Examines various topics in language and linguistics of interest to students of literature and English education. Repeatable with different topics.
- 440 ENGLISH FOR THE ELEMENTARY SCHOOL (4)
Survey of resources and methods of teaching the language arts.
- 441 WORLD LITERATURE FOR THE ELEMENTARY AND MIDDLE SCHOOL TEACHER (4)
Myth, legend, folk literature, epic, fairy tales and modern novels for children.
- 442 STUDIES IN LANGUAGE AND LEARNING (4)
Prereq: Eng 370. The characteristics of oral and written discourse. The development of writing ability in children and other topics as background for the teaching of language arts.
- 443 COMPOSITION FOR SECONDARY TEACHERS (4)
Prereq: Eng 436 and 438. Study of the theory and practice of teaching writing in the secondary schools; emphasis on the nature of composition and on developing methods and materials applicable to teaching composition.

444 LITERATURE IN SECONDARY SCHOOLS (5)

Prereq: Eng 304 or equivalent and 12 credits in literature at the 300 or 400 level. Survey of resources for teaching literature in secondary schools, methods and practice in teaching literary works in classrooms.

446 WORKSHOP IN THE TEACHING OF ENGLISH (2-5)

Practical work in the teaching of English.

451 CREATIVE WRITING WORKSHOP: FICTION (4)

Prereq: Eng 351 or equivalent. Opportunity for disciplined expression in writing fiction. Study of appropriate models. May be repeated for a total of three times with a limit of one course per quarter.

453 CREATIVE WRITING WORKSHOP: POETRY (4)

Prereq: Eng 353 or equivalent. Opportunity for disciplined expression in writing poetry. Study of appropriate models. May be repeated for a total of three times with a limit of one course per quarter.

454 CREATIVE WRITING WORKSHOP: NON-FICTION PROSE (4)

Prereq: Eng 354 or equivalent. Opportunity for disciplined expression in a specialized genre of non-fiction prose: essay, critical review, autobiography, article, etc. Course may be repeated a total of three times with a limit of one course per quarter. Study of appropriate prose models.

455 CREATIVE WRITING SEMINAR (4)

Prereq: two courses in creative writing and permission of instructor. Normally restricted to students who have had considerable writing experience. Open to students working in any genre. Study of appropriate models.

456 EXAMINING AND COMPOSING POETIC FORMS (4)

Combines genre study and literary expression. Opportunity to compose in a variety of traditional poetic forms. Study of appropriate models.

457 FICTION WRITING IN SPECIAL MODES (4)

Prereq: Eng 351 or equivalent. Workshop explorations in special areas such as writing commercial fiction, translating fiction, and adapting fictional works to other media.

499a,b,c HONORS TUTORIAL (2-5 ea)

Graduate Courses

Courses numbered 500: 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501 THEORIES OF LITERATURE (5)

Examination of theories of literature as they affect the practice of literary criticism and scholarship. Some attention to methods of research and documentation in English studies.

502 SEMINAR IN THE WRITING OF FICTION (5)

Individual projects in fiction along with examination of recently published works of fiction. May be repeated under advisement.

504 SEMINAR IN THE WRITING OF POETRY (5)

Individual projects in poetry along with examination of recently published volumes of poetry. May be repeated under advisement.

505 SEMINAR IN THE WRITING OF NON-FICTION PROSE (5)

Individual projects in non-fiction along with examination of classic and modern models of non-fiction. May be repeated under advisement.

NOTE: Graduate seminars in playwriting are available from the Department of Theatre Arts.

509 INTERNSHIP IN WRITING, EDITING AND PRODUCTION (1-5)

Under advisement, students may receive credit while working as interns in both on-campus and off-campus assignments appropriate to their career plans. Repeatable to 5 credits.

510a-z SEMINAR, TOPICS IN RHETORIC (5)

Rhetorical theory and composition. Topics from classical tradition and modern developments. Applications for teaching of language, literature and composition. Repeatable with different topics.

513 SEMINAR IN TEACHING COLLEGE COMPOSITION (3)

Prereq: appointment as a teaching assistant or permission of instructor. Elective. Offered once a year in the fall. S/U grading.

English

- 514 LINGUISTIC THEORY & LITERARY ANALYSIS (5)
Introduction to the link between linguistic analysis and literary theory, from both a historical and analytical perspective.
- In the following literature seminars, the specific subject matter covered will vary from year to year. Subtitles indicate subject matter most recently covered.*
- 515 SEMINAR: TOPICS IN LITERARY THEORY (5)
Prereq: Eng 501 and five graduate credits in literature. Offerings will examine major theorists or movements in literary theory from classical tradition to current developments. Repeatable under different topics.
- 520 STUDIES IN FORMS OF POETRY (5)
Offerings such as "Verse and Stanza Patterns" or "The Imagist Tradition" will examine the characteristics, history and criticism of poetic forms. Repeatable under different topics.
- 525 STUDIES IN FORMS OF FICTION (5)
Offerings such as "Romance and Realism in the Novel" or "The Rhetoric of Fiction" will examine the characteristics, history and criticism of fictional forms. Repeatable under different topics.
- 530 STUDIES IN FORMS OF DRAMA (5)
Offerings such as "The History Play" or "Theories of Comedy" will examine the characteristics, history and criticism of dramatic forms. Repeatable under different topics.
- 535 STUDIES IN FORMS OF NON-FICTION PROSE (5)
Offerings such as "The Informal Essay" or "The Art of Polemic" will examine the characteristics, history and criticism of non-fictional prose forms. Repeatable under different topics.
- 540 STUDIES IN LITERARY MODES (5)
Offerings such as "Theories of Satire" or "The Pastoral Vision" will examine modes and themes that may cut across the various forms of poetry, fiction and drama. Repeatable under different topics.
- 550 TOPICS IN AMERICAN LITERARY HISTORY (5)
Offerings will examine major authors, periods or movements in American literary history. Repeatable under different topics.
- 560 TOPICS IN BRITISH LITERARY HISTORY (5)
Offerings will examine major authors, periods or movements in British literary history. Repeatable under different topics.
- 570 CULTURAL PATTERNING IN LITERATURE (5)
Focuses on demonstrations of how cultural assumptions underlie literature and criticism. Topics—such as gender, race or class—will vary. Repeatable under different topics.
- 575 MASTERPIECES BEYOND STANDARD LITERARY HISTORY (5)
Readings in conventionally neglected areas. Identifies and analyzes masterpieces overlooked by conventional literary history. Topics—such as gender, race or class—will vary. Repeatable under different topics.
- 594a,b PRACTICUM IN TEACHING WRITING (2)
594a Writing Clinic
594b Classroom
Supervised teaching for M.A. candidates beyond Eng 513. S/U grading.
- 595 SEMINAR, RESEARCH TOPICS IN RHETORIC (5)
Prereq: Eng 510 or 513. Rhetorical theory, analysis and methods of research in the teaching of writing. Connections with related fields such as cognitive psychology and reading. Repeatable under different topics.
- 596 NORTHWEST WRITING INSTITUTE: THE TEACHING OF WRITING (3-5)
Prereq: experience in the classroom or experience in administration within a language-arts program. Theory and practice of teaching writing and planning writing instruction in secondary school and college for experienced teachers and experienced school administrators (e.g. language-arts coordinators). Topics covered include the composing process, design of writing assignments, evaluation of writing (both by individual teachers and district-wide assessment) and writing across the curriculum. Emphasis on the collaborative preparation of instructional materials and strategies, assessment procedures, and planning of inservice instruction for other educators.
- 598 RESEARCH IN THE TEACHING OF ENGLISH (1-3)
Prereq: admission to M.A. Program or teaching experience. Various announced topics in the teaching of language, literature and composition.
- 690 THESIS WRITING (5)

Foreign Languages & Literatures

The Department of Foreign Languages and Literatures offers major and minor programs for both the general student and the prospective foreign language teacher.

Whatever the student's career goal, foreign language may well play a vital part. As our world grows smaller and more interdependent, we find it increasingly important to be able to communicate/negotiate in another language. Whether a traveler in Madrid or an engineer in a multi-national corporation in Brussels, an English teacher in Japan or a flight attendant out of Frankfurt, language opens doors, brings opportunities and makes things work. At the same time, the study of language opens a window on a new culture, new values and a new way of seeing the world—including a rich literature, theater, art and film.

Communicative competence is a major goal of all foreign language skills acquisition courses. In addition, students are expected to acquire:

- A broad background in the literature and culture of the foreign language community.
- Knowledge about the linguistic structure of the language.

In teacher education, the department prepares the student to teach at the secondary level and also provides training for those who may have the opportunity to introduce foreign language study and culture at pre-school and primary levels.

ATTENDANCE

Regular attendance and participation is a key factor in the acquisition of foreign language skills.

ADVANCED PLACEMENT CREDIT

The student who has studied a foreign language in high school may be granted additional university credit upon completion of foreign language courses at Western. Advanced placement credit is not awarded for 100-level courses. Request for advanced placement credit is to be made to the department chair.

FOREIGN STUDY

Students can increase language proficiency through travel, work and study abroad. WWU offers quarter and year-round programs at study centers in Morelia, Mexico; Cologne, West Germany; Avignon and Rennes, France; Seville and Alicante, Spain; Peking, Nanjing and Shanghai, China. Designed to give students a complete foreign study experience in the host country, each program includes numerous excursions to historical and cultural sites, and a wide range of activities which complement formal classroom work. WWU also sponsors academic year university exchange programs (a) with Asia and Tsuda Universities in Tokyo, Japan; (b) with ISEP at 60 universities in 26 countries. Special application and registration procedures are required for participation in foreign study programs, and students should consult with the Foreign Study Office, Old Main 530, well in advance of their planned quarter abroad.

FOREIGN LANGUAGES AND LITERATURES FACULTY

RUDOLF WEISS (1970) Chair.

Professor of German and Phonetics/Linguistics. BA, BA in Ed. Western Washington State College; MA, Ph.D. University of Colorado.

Foreign Languages/Literatures

- DARREL W. AMUNDSEN (1969) Professor of Classics. BA, Western Washington State College; MA, University of Washington; PhD, University of British Columbia.
- ROBERT S. BALAS (1969) Professor of French. BA, Uppsala College; MA, University of Nebraska; PhD, University of Wisconsin.
- HENRICH BROCKHAUS (1965) Associate Professor of German. BA, MA, University of British Columbia; PhD, University of Washington.
- WILLIAM H. BRYANT (1970) Professor of French. BA, University of Hawaii; PhD, University of Missouri.
- MARIO A. CABEZAS (1990) Assistant Professor of Spanish. Carrera profesoral superior, Universidad Central, Cuba; MA, University of South Carolina, Columbia; PhD, University of California, Davis.
- ROBERT E. CAMPBELL (1991) Assistant Professor of Japanese. BA, International Christian University, Tokyo, Japan; MA, University of Hawaii, Honolulu.
- SHAWN GYNAN (1986) Associate Professor of Spanish. BS, Georgetown University; MA, University of Texas, El Paso; PhD, University of Texas, Austin.
- VICKI L. HAMBLIN (1989) Assistant Professor of French. BS, Southwest Missouri State University; MA, Arizona State University; PhD, University of Arizona.
- JESSE HIRAOKA (1972) Professor of French and American Cultural Studies. BA, Roosevelt University; MA, University of Chicago; PhD, Northwestern University.
- LOUISE S. KIKUCHI (1979) Associate Professor of French. BA, University of Hawaii; MA, PhD, University of California, Santa Barbara.
- VLADIMIR MILICIC (1962) Professor of Russian and Linguistics. Certificate of Baccalaureate, Gymnasium for Boys, Belgrade; MA, University of Chicago.
- DANIEL RANGEL-GUERRERO (1969) Associate Professor of Spanish. AA, Sierra College; BA, Stanford University; MA, PhD, University of Oregon.
- WALTER L. ROBINSON (1960) Professor of German. BA, MA, PhD, University of Texas.
- KATHLEEN TOMLONOVIC (1987) Assistant Professor of Chinese. BA, Marycrest College; MA, Fordham University; MA, University of Iowa; PhD, University of Washington.
- JOHN H. UNDERWOOD (1988) Associate Professor of Spanish. BA, Arizona State University; MS, Georgetown University; PhD, University of California, Los Angeles.
- EDWARD J. VAJDA (1987) Assistant Professor of Russian and Linguistics. BA, Indiana University; MA, PhD, University of Washington.
- MICHIKO YUSA (1983) Associate Professor of Japanese and East Asian Studies. BA, International Christian University (Tokyo); MA, C Phil, PhD, University of California, Santa Barbara.

BACHELOR OF ARTS

Major — French, German, Spanish

55 credits; minor concentration recommended; GPA of 2.5 or above required in the major.

The Foreign Language Requirement

- Up to 15 credits in the language on the 200 level
- Remaining credits in the language at the upper-division level, including 401 and two additional 400-level courses. French majors must include two 401 courses. German and Spanish majors must include 402

Course 425 is normally not applicable to the major.

Students transferring from other institutions must take at least nine credits, including the most advanced skills course, on campus in the department.

Minor Concentration Recommended

Students are advised to develop a minor concentration which complements the language major and is appropriate to the student's future plans. Examples include a second foreign language, communication, business, English as a second language, East Asian studies, and linguistics, among others.

Major — Classical Studies or Slavic Area Studies

Student/faculty-designed majors in classical studies or Slavic area studies may be arranged.

TEACHING ENDORSEMENT

The teaching endorsement is part of the certification program for the State of Washington. The department grants endorsements in French, German, Spanish, Chinese, Japanese and Russian.

Regulations for the teaching endorsement are subject to change. For current requirements and for admission

into the teaching endorsement program, students are advised to contact the foreign language endorsement adviser, Dr. Louise Kikuchi.

French, German and Spanish

66 credits

French, German and Spanish students must meet the following requirements (to be taken with Bachelor of Arts in French, German or Spanish):

- Major, 55 credits
- Endorsement, 11 credits: FL 410, 420, 430
- Be recommended by a faculty member to pursue a teaching credential
- Have a GPA of 3.0 or better in the major and endorsement courses
- Pass the departmental foreign language oral proficiency exam given during spring quarter
- Meet the major qualifications with courses distributed in the following manner:
 - 200-level: up to 15 credits maximum
 - 300-level: two third-year grammar/composition courses, 314 Phonetics, (German students must add 305, and 331 or 332)
 - 400-level: must have 3 courses, including two fourth-year grammar/composition (French: two 401's; German and Spanish: 401, 402).
 - Two courses in literature

Japanese, Chinese and Russian

60 credit minimum

Students wishing to pursue a Japanese or Chinese endorsement will complete the East Asian Studies major; the Russian endorsement may be obtained with the completion of a Slavic area studies major. Both majors are student/faculty designed, arranged through the College of Arts and Sciences. See the Student/Faculty-Designed Major section of this catalog. The student must:

- Be recommended by a faculty

Foreign Languages/Literatures

member to pursue a teaching credential

- Complete the regular fourth-year sequel or equivalent in the language
- Pass the departmental oral proficiency exam (spring quarter)
- Complete Linguistics 201 or Linguistics 314
- Maintain a GPA of 3.0 or better in the major
- Complete FL 410, 420, 430

NOTE: It may be necessary to meet the proficiency and fourth-year skills requirement through an approved study abroad program.

Postbaccalaureate Students

Postbaccalaureate students with a degree in a foreign language are required to:

- Have a GPA of 3.0 or better in the major
- Obtain a letter of recommendation from a faculty member in reference to the candidate's potential as a teacher
- Satisfactorily pass the departmental oral proficiency exam given during the spring quarter
- Complete the endorsement sequence FL 410, 420, 430 and 314, Phonetics

Additional work in the language also may be required. Students should consult the foreign language education adviser.

Students preparing two language teaching endorsements may apply 10 upper-division credits in the second language towards the 55 credits required for the major. The student must complete the most advanced skills course and pass the oral proficiency exam for both languages to receive teaching endorsement. FL 410, 420 and 430 will apply to both languages.

BACHELOR OF ARTS IN EDUCATION

Major — French, German,
Spanish 45 credits

Elementary (no Foreign Language endorsement)*

This program is designed for prospective elementary teachers who wish to concentrate their major efforts in a foreign language. This program is not intended to result in a teaching endorsement by the department, but does satisfy the academic major requirement for certification in elementary education.

- Language skills courses through the fourth year: 201, 202, 205, 301, 302, 401, 402 (27-30 credits)
- Plus one of the following options:
 - A. Selected courses under advisement at the 300 or 400-level in the language (15-18 credits)
or
 - B. Foreign study: a minimum of one quarter in the country of the language. Study should be in language, culture or literature (15 additional credits may be earned through foreign study)

*For additional courses necessary to meet the requirements for an endorsement in a foreign language, contact the foreign language endorsement adviser, Dr. Louise Kikuchi.

Minor — Chinese, French,
German, Japanese, Russian,
Spanish

- A minimum of 25 credits 200 level and above, with a limit of 15 credits at the 200 level. GPA of 2.50 or above in courses used in the minor. A minor must have completed the highest level third-year skills course offered in the language (French, two 301s; German, Russian, Spanish, 302; Chinese, Japanese, 303).

Minor — Classical Studies

27 credits

- Classical Studies 250, 350
- 15 credits from Classical Studies 450 (variable topics; repeatable)
- Philosophy 364

Minor — Greek or Latin

- 12 credits beyond the first year in college Greek or Latin

Minor — Linguistics

See the Linguistics section of this catalog.

LATIN AMERICAN STUDIES

See the History Department section of this catalog.

GRADUATE STUDY

For a concentration in French, German or Spanish leading to the Master of Education degree, see the Graduate School section of this catalog.

COURSES IN FOREIGN LANGUAGES

NOTE: not all courses are offered every year. See *Timetable of Classes* for current offerings. Consult department for specific questions.

Courses numbered 109, 209 are intended for languages offered less frequently.

General Courses

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

109a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)

To be taken in sequence. Beginning level. Only those languages for which qualified instructors are available for supervision and testing will be offered. Repeatable to 15 credits at the 109 level.

- 209a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)
 Prereq: FL 109. To be taken in sequence. Intermediate level. Only those languages for which qualified instructors are available for supervision and testing will be offered. Repeatable to 15 credits at the 209 level.
- 410 APPLIED LINGUISTICS (4)
 Prereq: 6 credits in one modern foreign language beyond the second year. Ling 201 recommended. The role of linguistics in the analysis of foreign language teaching. Topics include learner variables, research in second language acquisition and contrastive structure (English with other languages).
- 420 METHODS AND MATERIALS FOR TEACHING FOREIGN LANGUAGES (4)
 Prereq: 6 credits in one modern foreign language beyond the second year. To be taken prior to student teaching. Theory and practice of teaching foreign languages in secondary schools. Emphasis on developing appropriate techniques and materials to aid language acquisition.
- 430 TEACHING PRACTICUM AT THE ELEMENTARY LEVEL (3)
 Prereq: FL 420 and written permission of instructor; spring preregistration through department. Course is offered only during the fall quarter. Supervised foreign language teaching to elementary school students. One-hour weekly seminar to discuss appropriate materials and teaching strategies. S/U grading.

For courses taught in translation, see Classical Studies and East Asian 367, 368.

Graduate Core Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 540 SECOND LANGUAGE ACQUISITION: THEORY (4)
 Prereq: graduate status or permission of department. Second-language acquisition discussed in terms of current theories of cognition. Groundwork for these discussions will focus on structural and communicative aspects of language; social context of language; notional-functional syllabus, grammatical syllabus; learner strategies; learning theory; interlanguage; acquisition of language components, vocabulary. Offered summers only.

- 542 SECOND LANGUAGE ACQUISITION: METHODS (4)
 Prereq: FL 540. Theory and practice of current methods and techniques in terms of their theoretical bases and application (Natural Approach, Comprehension Approach, TPR, etc.). Discussion of practical solutions to teaching problems. Includes classroom observation and in-class peer teaching. Offered summers only.
- 544 LANGUAGE LEARNING AND TECHNOLOGY (4)
 Prereq: FL 540 recommended. Introduction to computer-assisted language learning and the use of video in the classroom. The course will focus on software evaluation and current development with authoring systems and videotapes; introduction to materials development with authoring systems; use of video in the classroom; interactive video; videotaping as a source of materials. Offered summers only.

Chinese

- 101, 102, 103 FIRST-YEAR CHINESE (5 ea)
 Prereq: Chinese 103 or equivalent; to be taken in sequence. Fundamentals of the language: pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND-YEAR CHINESE (5 ea)
 Prereq: Chinese 103 or equivalent; to be taken in sequence. Review of the fundamentals of the language; emphasis on acquisition of oral and written vocabulary; intensive reading and discussion in Chinese of graded materials in modern Chinese.
- 301, 302, 303 THIRD-YEAR CHINESE (5 ea)
 Prereq: Chinese 203; to be taken in sequence. Intensive reading, written vocabulary acquisition (reaching the 1,400 character level by the end of the sequence) and oral comprehension of materials in modern Chinese.

Classical Studies

(The following courses require no knowledge of Latin or Greek as prerequisites. Certain courses not offered every year.)

- 250 SURVEY OF CLASSICAL LITERATURE (5)
 A survey of the most significant Greek and Latin authors in modern English translations. Every major classical genre will be included, beginning with Greek epic and ending with late Roman fiction.

Foreign Languages/Literatures

- 350 GREEK AND ROMAN MYTHOLOGY (3)
Important classical myths seen in the context of classical literature; influence on Western literature.
- 450 TOPICS IN CLASSICAL STUDIES (3)
Prereq: Cl St 250 or 350 or Lbrl 121 or Eng 261. Varying topics, such as individual genres (e.g., epic tragedy) or eras (fifth-century B.C. Athens, the Mediterranean World in the first century A.D.), will be treated from quarter to quarter. See *Timetable of Classes* for offerings. Repeatable with various topics.
- ### French
- 101, 102, 103 ELEMENTARY FRENCH (5 ea)
To be taken in sequence. Fundamentals of speaking, reading, writing and understanding French.
- 104 REVIEW OF ELEMENTARY FRENCH (5)
Designed primarily for students with two years of high school French to prepare them for the intermediate level through review and development of basic structure and vocabulary. Also for students needing a review of the first year. Can be substituted for French 103. Offered fall quarter only.
- 201, 202 INTERMEDIATE FRENCH (5 ea)
Prereq: French 103 or 104 or equivalent; to be taken in sequence. Continuation of skill development begun in Elementary French, with additional work in vocabulary acquisition and grammar.
- 230 FRENCH LANGUAGE AND CULTURE (3 or 6)
Prereq: French 103 or equivalent. An intermediate course in conversation, culture study and expression. Films, oral and written presentations. Offered for 3 credits academic year; 3 or 6 credits summer quarter.
- 260 ATELIER FRANCAIS (5-12)
Prereq: French 103 or equivalent. Review of basic French grammar; intensive oral practice; simple composition, with vocabulary building. Discussion of modern French culture. S/U grading. Offered summers only.
- 280 FRENCH FOR A READING KNOWLEDGE (4)
Prereq: French 103 or equivalent. Individualized instruction designed to improve speed and comprehension in reading for upper-division work. Work on translation skills. S/U grading.
- 301a,b,c GRAMMAR REVIEW AND WRITTEN EXPOSITION (4 ea)
Prereq: French 202 or equivalent. Practice in written expression, vocabulary building, study of grammar and language structure. Repeatable to 12 credits; 8 credits required for major/minor.
- 305a,b,c ORAL EXPOSITION (3 ea)
Prereq: French 202 or equivalent. Discussion and expository talks, with emphasis on vocabulary and concept building; topic areas vary each quarter. Repeatable to 9 credits; 6 credits required for majors.
- 314 PHONETICS (4)
Prereq: French 202 or equivalent. Emphasizes improvement of pronunciation, contrasts English and French pronunciations and teaches phonetic transcription.
- 340 INTRODUCTION TO FRENCH LITERATURE I (5)
Prereq: French 301 or equivalent. An introduction to literary analysis. *explication de texte* involving poetry, prose and drama from the works of major authors before 1800.
- 341 INTRODUCTION TO FRENCH LITERATURE II (5)
Prereq: French 301 (French 340 recommended). An introduction to literary analysis. *explication de texte* involving poetry, prose and drama from works of major authors after 1800.
- 360 ATELIER FRANCAIS, INTERMEDIATE LEVEL (5-12)
Prereq: 10 credits of 200-level French or equivalent. Advanced French grammar and stylistics; intensive oral practice; extensive practice in reading and writing. Discussion of modern French culture. S/U grading. Offered summers only.
- 401a,b,c STRUCTURES ET STYLISTIQUE (3 ea)
Prereq: 8 credits of French 301. Extensive practice in writing and in analyzing grammatical, stylistic and textual forms. Repeatable to 9 credits, 6 credits required for majors.
- 405 COMMUNICATION ET DISCOURS (3)
Prereq: 6 credits of French 305; 8 credits of French 301. Development of complex presentations and discussions. Exercises in interpretation and synthesis. Topic areas vary each quarter. Repeatable to 9 credits; 6 credits required for majors.

425 TEACHING-LEARNING PROCESSES IN ELEMENTARY FRENCH (2)

Prereq: written permission of department and two courses in upper-division French. Practicum in course preparation, classroom and language laboratory procedures, materials, evaluation and counseling. Repeatable. S/U grading.

450 SEMINAR IN FRENCH STUDIES (3-5)

Prereq: two upper-division courses, including French 301. Authors, genres, movements and period studies. Repeatable with various topics.

460 ATELIER FRANCAIS, ADVANCED LEVEL (3-6)

Prereq: 10 credits of 300-level French or equivalent. Review of advanced French grammar and stylistics; readings and discussion of modern French texts; oral and written reports and presentations; *précis* writing. S/U grading. Offered summers only.

Graduate Courses in French

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501a,b FRENCH LANGUAGE (4 ea)

Prereq: two quarters of French 401. Continuing acquisition of proficiency in the four skills: listening, speaking, reading, writing. Offered summers only.

510a,b APPLIED FRENCH LINGUISTICS (4 ea)

Prereq: Ling 201. Applied French linguistics for the language teacher; contrastive French-English grammar and the examination of teaching problems. Repeatable with various topics. Offered summers only.

520a,b STUDIES IN FRENCH CULTURE (4 ea)

Prereq: graduate status or permission of department. Topics in the culture of France and French-speaking countries. Emphasis on materials for possible use in the teaching of culture at the high school level. Sources include texts, songs and films. Repeatable with various topics. Offered summers only.

530a,b STUDIES IN FRENCH LITERATURE (4 ea)

Prereq: French 450. Topics in French literature. Emphasis on materials for possible use in the teaching of reading and literature at the high school level. Topics include authors, themes, genres and movements. Repeatable with various topics. Offered summers only.

German

101, 102, 103 ELEMENTARY GERMAN (5 ea)

To be taken in sequence. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.

104 REVIEW OF ELEMENTARY GERMAN (5)

Designed primarily for students with two years of high school German to prepare them for the intermediate level through review and development of basic structure and vocabulary. Also for students needing a review of the first year. Can be substituted for German 103. Offered fall quarter only.

201, 202 INTERMEDIATE GERMAN (5 ea)

Prereq: German 103 or 104 or equivalent; to be taken in sequence. Review of the fundamentals, reading and conversation.

205 INTERMEDIATE GERMAN CONVERSATION (3)

Prereq: German 202. Under special circumstances can be taken concurrently with German 202 with permission of instructor. Emphasis on speaking, idiomatic use of language and vocabulary building based on daily-life situations. S/U grading.

301, 302 THIRD-YEAR COMPOSITION (3 ea)

Prereq: German 202 or equivalent; German 205 highly recommended; to be taken in sequence. Written and oral composition and grammar, and vocabulary building.

305 GERMAN CONVERSATION (3)

Prereq: German 301. Conversation practice involving situations of daily life; topics of contemporary Germany. Vocabulary building.

314 PHONETICS (4)

Prereq: German 202. A course designed to improve the student's pronunciation and intonation, to become familiar with phonetic transcription, and to become aware of problems involved in teaching German sounds.

331 CIVILIZATION OF GERMANY THROUGH THE NINETEENTH CENTURY (3)

Prereq: German 202 or equivalent; German 205 highly recommended. Significant elements of German civilization presented through German texts.

332 GERMAN CIVILIZATION TODAY (3)

Prereq: German 202 or equivalent; German 205 highly recommended. Significant elements of German civilization.

Foreign Languages/Literatures

- 340 INTRODUCTION TO GERMAN LITERATURE (4)
Prereq: 10 credits of second-year German or equivalent. Selected works of major German authors, with emphasis on reading improvement and methods of textual interpretation.
- 341 NINETEENTH CENTURY GERMAN LITERATURE (3)
Prereq: German 340. Emphasis on either Romanticism or Realism. Repeatable with various topics.
- 343 EIGHTEENTH CENTURY GERMAN LITERATURE (3)
Prereq: German 340. Classical period of German literature as reflected in a major work of Lessing, Goethe and Schiller.
- 385 GERMAN CULTURE AND CONVERSATION (1)
Prereq: German 201. German culture through film, talks and song. General discussion of Germany and its culture, especially in contrast to our own. Repeatable. S/U grading.
- 401, 402 ADVANCED COMPOSITION AND GRAMMAR (3 ea)
Prereq: German 302. Advanced written and oral expression.
- 405 ADVANCED CONVERSATION (3)
Prereq: German 302. Advanced conversational practice on topics reflecting current events in German-speaking countries; students give expository talks and discuss articles taken from periodicals; vocabulary building.
- 425 TEACHING-LEARNING PROCESS IN ELEMENTARY GERMAN (2)
Prereq: written permission of Department and six credits upper-division German. Practicum in course preparation, classroom and language laboratory procedures, materials, evaluation and counseling. Repeatable. S/U grading.
- 442 GERMAN LITERATURE IN THE TWENTIETH CENTURY (3)
Prereq: 9 credits in upper-division German. Selections reflecting development of recent German literature.
- 450 STUDIES IN GERMAN LITERATURE (3)
Prereq: 9 credits in upper-division German or equivalent, and permission of Department. Major authors and movements. Repeatable with various topics.

Graduate Courses in German

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501a,b GERMAN LANGUAGE (4 ea)
Prereq: graduate status or permission of department. Continuing acquisition of proficiency in the four skills: listening, speaking, reading, writing. Offered summers only.
- 510a,b APPLIED GERMAN LINGUISTICS (4 ea)
Prereq: graduate status or permission of department. Applied German linguistics for the language teacher: contrastive phonetics, pronunciation, phonology, morphology, syntax, etc. Repeatable with various topics. Offered summers only.
- 520a,b STUDIES IN GERMAN CULTURE (4 ea)
Prereq: graduate status or permission of department. Topics in the culture of the German-speaking world. Emphasis on materials for possible use in the teaching of culture at the high school level. Sources include texts, songs and films. Repeatable with various topics. Offered summers only.
- 530a,b STUDIES IN GERMAN LITERATURE (4 ea)
Prereq: graduate status or permission of department. Topics in German literature. Emphasis on materials for possible use in the teaching of reading and literature at the high school level. Topics include authors, themes, genres and movements. Repeatable with various topics. Offered summers only.
- ## Greek
- 101, 102, 103 ELEMENTARY GREEK (5 ea)
Each course prerequisite to the next. Fundamentals of grammar designed primarily to provide an elementary reading knowledge; selected readings from Plato's simpler dialogues.
- 111, 112, 113 NEW TESTAMENT GREEK (5ea)
Each course prerequisite to the next. Study of the basic grammar and vocabulary of the Koine dialect, to include New Testament and Patristic sources, with emphasis placed on the acquiring of a reading knowledge.

201, 202, 203 INTERMEDIATE GREEK (3 ea)

Prereq: Greek 103 or equivalent; to be taken in sequence. Review of fundamentals; reading from Plato's dialogues, the orators, the *Iliad* or *Odyssey*. Introduction to Greek civilization.

350 READINGS IN GREEK LITERATURE (3)

Prereq: Greek 203 or equivalent. Readings in major genres. Repeatable with various topics.

Japanese

101, 102, 103 FIRST-YEAR JAPANESE (5 ea)

To be taken in sequence. Fundamentals of the language: writing and reading *hiragana*, *katakana*, and *kanji*; grammar, listening and speaking. Tape-assisted oral practice is an integral part of the course.

201, 202, 203 SECOND-YEAR JAPANESE (5 ea)

Prereq: Japanese 103 or equivalent; to be taken in sequence. Further fundamental grammar; review of first-year grammar; emphasis on writing, reading, listening and speaking skills. Tape-assisted oral practice is an integral part of the course.

280 KANJI (2)

Acquisition of 50 *kanji* per week by way of associative method. Repeatable to 10 credits. S/U grading; not applicable to the minor.

301, 302, 303 THIRD-YEAR JAPANESE (4 ea)

Prereq: Japanese 203 or equivalent; to be taken in sequence. Emphasis on well-rounded development of reading, writing, listening and speaking abilities; introduction of colloquial Japanese. Tape-assisted oral practice is an integral part of the course.

Latin

101, 102, 103 ELEMENTARY LATIN (5 ea)

To be taken in sequence. Fundamentals of grammar to provide a reading knowledge; selected readings from various Roman writers.

201, 202, 203 INTERMEDIATE LATIN (3 ea)

Prereq: Latin 103 or two years high school Latin; to be taken in sequence. Review of fundamentals; selected readings from various Roman writers; introduction to Latin civilization.

Russian

101, 102, 103 ELEMENTARY RUSSIAN (5 ea)

To be taken in sequence. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.

201, 202, 203 INTERMEDIATE RUSSIAN (5 ea)

Prereq: Russian 103 or equivalent; to be taken in sequence. Review of fundamentals; speaking, reading, writing and understanding.

301 THIRD-YEAR COMPOSITION (4)

Prereq: Russian 203 or equivalent. Written and oral expression, advanced grammar, and vocabulary building.

302 THIRD-YEAR COMPOSITION (3)

Prereq: Russian 301 or equivalent. Written and oral expression, advanced grammar and vocabulary building.

330 CIVILIZATION OF RUSSIA (3)

Prereq: Russian 201, 202 and 203; or equivalent. Significant elements of Russian civilization presented through Russian texts.

Spanish

101, 102, 103 FIRST-YEAR SPANISH (5 ea)

Spanish 101 is for absolute beginners or with permission of instructor. Courses to be taken in sequence. Fundamentals of understanding, speaking, reading and writing.

104 ACCELERATED FIRST-YEAR SPANISH (5)

Designed for students with two years of high school Spanish to prepare them for the second-year level through review and development of basic structure and vocabulary.

201, 202 SECOND-YEAR SPANISH (5 ea)

Prereq: Spanish 103 or 104 or equivalent; to be taken in sequence. Review of fundamentals: understanding, speaking, reading and writing.

205 SECOND-YEAR CONVERSATION (3)

Prereq: Spanish 103, 104, or equivalent. Emphasis on developing speaking skills in communicative situations. Vocabulary building.

301, 302 THIRD-YEAR SPANISH (4 ea)

Prereq: Spanish 202 or equivalent; to be taken in sequence. Language development, including written composition, vocabulary building, analysis of grammatical problems and discussion of selected Spanish texts.

305 THIRD-YEAR CONVERSATION (3)

Prereq: Spanish 202 or equivalent. Development of speaking skills in communicative situations. Repeatable with various topics.

Foreign Languages/Literatures

314 PHONETICS (4)

Prereq: Spanish 301 or equivalent. Improvement of student pronunciation, familiarization with phonetic transcription and description of Spanish sounds.

330 HISPANIC CULTURE (3)

Prereq: Spanish 202 or equivalent. Survey of Hispanic civilization (peoples, traditions, contemporary issues). Repeatable with various topics.

340 INTRODUCTION TO HISPANIC LITERATURE (3)

Prereq: Spanish 301 or equivalent. May be taken concurrently with Spanish 301 with permission of instructor. Selected works of major Hispanic authors, with emphasis on reading improvement and methods of textual interpretation.

350 MAJOR WORKS IN HISPANIC LITERATURE (3)

Prereq: Spanish 340 or equivalent. Study of genres and trends during various periods in Hispanic literature. Specific topics to be listed. Recent topics have included: La Poesía hispanoamericana desde el modernismo, Contemporary Mexican Literature, Modern Spanish Theater, Generation of '98, Latin American Short Story. Repeatable with various topics.

401 ADVANCED GRAMMAR (3)

Prereq: Spanish 302 or equivalent. Analysis of special problems in Spanish syntax.

402 ADVANCED COMPOSITION (3)

Prereq: Spanish 302 or equivalent. Composition and stylistics; analysis of textual examples of style and organization.

405 FOURTH-YEAR CONVERSATION (3)

Prereq: Spanish 302 or equivalent. Advanced speaking practice in communicative situations.

425 TEACHING-LEARNING PROCESSES IN ELEMENTARY SPANISH (2)

Prereq: written permission of department and two courses in upper-division Spanish. Practicum in teaching Spanish. Does not apply to major. S/U grading.

440 STUDIES IN HISPANIC LINGUISTICS (3)

Prereq: Spanish 314 or Ling 201. Study of major areas in Hispanic linguistics. Topics may include: history of Spanish, lexicology, phonology, morphology, syntax, dialectology. Repeatable with various topics.

450 STUDIES IN HISPANIC LITERATURE (3)

Prereq: two courses in upper-division Spanish. Major authors and movements. Recent topics have included: El Quijote, Golden Age Theater, Modern Spanish Poetry. Repeatable with various topics.

Graduate Courses in Spanish

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501a,b SPANISH LANGUAGE (4 ea)

Prereq: graduate status or permission of department. Continuing acquisition of proficiency in the four skills: listening, speaking, reading, writing. Offered summers only.

510a,b APPLIED SPANISH LINGUISTICS (4 ea)

Prereq: graduate status or permission of department. Applied Spanish linguistics for the language teacher. Topics may include contrastive Spanish-English grammar, pronunciation and phonology, lexicon, and teaching problems in Spanish morphology and syntax. Repeatable with various topics. Offered summers only.

520a,b STUDIES IN SPANISH CULTURE (4 ea)

Prereq: graduate status or permission of department. Topics in Spanish and Hispanic culture. Emphasis on materials for possible use in the teaching of culture at the high school level. Sources include texts, songs and films. Repeatable with various topics. Offered summers only.

530a,b STUDIES IN SPANISH LITERATURE (4 ea)

Prereq: graduate status or permission of department. Topics in Spanish and Hispanic literature. Emphasis on materials for possible use in the teaching of reading and literature at the high school level. Topics include authors, themes, genres and movements. Repeatable with various topics. Offered summers only.



Geography & Regional Planning

THE SCIENCE OF GEOGRAPHY

Defined by some as a physical science, by others as a social science, geography is pre-eminently a science of spatial relationships. It focuses attention on many aspects of man and his use of the environment.

THE TWO FIELDS

Geography and regional planning are compatible fields that in many countries have enjoyed a long and fruitful association. The frequently quoted statement that "planning is the art of which geography is the science," although not universally accepted, indicates nonetheless the close proximity of these two branches of learning.

Geography focuses attention on man and his use of the physical environment. Hence, geographers study such topics as population patterns; transportation and settlement; land use and natural resources; and such aspects of the environment as landforms, climate, soils and vegetation.

Planners likewise are concerned with these same topics, but generally within the confines of a specific region, usually a municipality, a county or other small region. As the American experience increasingly reflects urbanization and growing pressure of space, resources and environmental quality, the challenge to understand the forces that determine urban patterns and require societal responses becomes the specific concern of the planner.

THE DEPARTMENT

Faculty

The members of the department are

scholars whose special interests and training span most of the sub-fields of the two disciplines. Most have had first-hand experience in foreign countries of Europe, Africa, South and East Asia, Australasia and Latin America. Individual faculty members participate in such university programs as the Center for Pacific Northwest Studies, the Canadian-American Studies Program, and the East Asian Studies Program.

Programs and Degrees

In keeping with Western's primary mission of excellence in undergraduate education, the general objectives of the department are (1) to provide a broad understanding of the world's environments, resources and peoples as an essential part of a liberal education and (2) to prepare students for professional careers in the public and private sectors including industry, planning, services and teaching, and for graduate studies. The department offers undergraduate major programs in geography and in planning, as well as a minor in cartography/GIS and a minor in geography. A certificate or letter for satisfactory completion of the minor is available upon request. B.A. and B.A. in Education degrees are granted. At the graduate level, an M.S. degree in geography is granted.

Facilities and Equipment

A major facility of the department is its well-stocked map library, which contains more than 198,000 sheet maps, 878 atlases and a large number of air photos, as well as many reference works for cartographic and geographic research. The library is an official depository for maps issued by the United States Geological Survey, the United States Defense Mapping Agency, Washington State

Geography/Regional Planning

Department of Natural Resources, the Canadian Department of Energy, Mines and Resources, and other governmental agencies. A well-equipped cartographic laboratory and computing facilities provide for manual and computer assisted cartographic production and reproduction, and for programs in remote sensing and geographic information systems. Two technical staff members, a program manager—Map Library, and a staff cartographer are present to assist in the instructional and research activities of the department.

EMPLOYMENT OPPORTUNITIES

Although many of Western's graduates in geography have become teachers either at the elementary or secondary level, opportunities in other fields have increased in recent years. Urban and regional planning, business and industry, government service, insurance and transportation have provided excellent openings for many recent graduates. For those graduates who demonstrate ability in such techniques of geographic research as statistical and cartographic analysis, the employment options are much increased. Particularly useful for the acquisition of such skills is the extended minor in cartography.

In the field of urban and regional planning, employment opportunities occur mainly in a wide range of federal, state and local government agencies. Private consulting agencies and industrial firms also require the services of trained planners in such projects as real estate development or the location of commercial and industrial enterprises. Rising concern for the natural environment has greatly increased the demand for qualified planners.

GRADUATE STUDY

Although holders of the bachelor's

degree in geography and planning may find challenging positions in the field of planning, graduate study and completion of the master's degree are becoming common requirements for professional advancement. Students in both programs are urged to consider the possibility of graduate training no later than the beginning of their senior year.

GEOGRAPHY FACULTY

- DEBNATH MOOKHERJEE (1961) Chair. Professor. BSc. MSc. University of Calcutta; PhD. University of Florida
- PATRICK H. BUCKLEY (1987) Assistant Professor. BS. Notre Dame; MA. University of Washington. PhD. Boston University.
- ROBERT L. MONAHAN (1955) Professor. BA. University of Washington; MA. University of Michigan; PhD. McGill University.
- JAMES W. SCOTT (1966) Professor. BA, MA. Cambridge University; PhD. Indiana University
- THOMAS A. TERICH (1973) Professor. BA, MA. California State University; PhD. Oregon State University

Adjunct Faculty

- RICHARD H. BERG (1970) Professor. BS, MS. University of Washington; PhD. Oregon State University; PE. State of Washington.

BACHELOR OF ARTS

The department offers a broad base of course work which includes a variety of systematic and regional fields. All majors are required to complete a set of core courses, supporting courses and a field of concentration that meets their specific needs and interests. The major, including electives, totals 70 credits. The undergraduate adviser will recommend courses related to students' career objectives. Students are urged to consult advisers at the earliest opportunity to plan their program. Those contemplating work toward a graduate degree are advised to acquire a reading knowledge in a foreign language and competence in statistics and/or computer science during their undergraduate years.

Major — Geography

70 credits

Adviser - T. Terich

Core Required Courses:

- Geog 201, 301, 310 or 311, 351, 354, 486
- Two courses from Geog 352, 356, 358, 452, 453, 475
- Two courses from Geog 313, 315, 319, 321, 322

Concentrations:

Natural Resources/Physical Geography —

This option emphasizes the study of interactions between the natural environment and human activities. Students investigate issues relating to utilization of resources and develop skills in the scientific management of natural resources.

- Geog 203

- Four courses from Geog 330, 331, 362, 363, 431, 432, 461

Regional Development/Urban and Economic Geography —

This option prepares students for business and industry-related occupations, and also for community and regional planning. An understanding of the spatial aspects of the economy and the development of skills toward analyzing urban-economic phenomena are major objectives of this option.

- Geog 205
- Four courses from Geog 340, 341, 345, 432, 460, 462, 464

Supporting Courses and Electives for both concentrations:

- Math 240 or Soc 215 or equivalent; CS 101 or 110 or 210
- Electives under advisement



Geography/Regional Planning

Minor — Geography 25 credits

- Geog 201, 203, 205
- Electives under advisement

Minor — Cartography/ Geographic Information Systems 35 credits

Adviser - R. Monahan

- Geog 201 or 251; Geog 351, 352, 354, 358, 452; Comp Sci 101 or 110 or 210; Tech 340
- Electives under advisement: Geog 356, 456; Art 270, 371, 373; Comp Sci 480; Tech 341, 346

Major — Urban and Regional Planning 105 credits

Adviser - D. Mookherjee

An interdisciplinary approach, based on the strengths of six departments in the College of Arts and Sciences and Huxley College of Environmental Studies, characterizes the program.

The Department of Geography and Regional Planning administers the program with support from other departments. This multi-disciplinary character of the program, which draws upon specialized resources of the various departments, particularly economics, political science, and sociology, offers unique opportunities for students to view the interrelationships of various components of the environmental problems and to analyze, identify and evaluate them. The academic program has been primarily designed to prepare students for employment in planning agencies as well as to provide a foundation for graduate study.

NOTE: Students who are currently enrolled in other institutions but who intend to transfer to Western to complete the urban and regional planning program should review carefully both the general education requirements of the College of Arts and Sciences and the requirements of the planning program. Those who transfer to

Western at the end of their sophomore year or later may encounter difficulties in completing all requirements within a normal four-year total period.

Core Required Courses

- Econ 206 or 207, 480
- Geog 201, 205, 270, 341, 351, 354, 370, 470
- Envr 436
- Math 240 or Soc 215
- Pol Sci 250, 353
- Soc 101; 321 or 323
- Comp Sci 101 or 110 or 210

Electives

- A minor under advisement
or
- An internship (6-12 credits), plus 13-19 credits under advisement

BACHELOR OF ARTS IN EDUCATION

This program is designed to provide necessary depth as well as breadth to the teaching majors who wish to specialize in geography in the public school system.

Adviser - R. Monahan

Major — Geography — Secondary 55 credits

- Geog 201, 203, 205, 209, 251, 301, 310, 311, 406
- Approved electives to total 55 credits

NOTE: Students must also complete the specific program requirements for social studies education, including the social studies minor. See the Social Studies Education Program section of this catalog.

Completion of this major/minor. See the Social Studies Education Program section of this catalog.

Major — Geography — Elementary 45 credits

- Geog 201, 203, 205, 209, 251, 301, 310, 311, 406

- Approved electives to total 45 credits

Minor — Geography 24 credits

- Geog 201, 203, 251, 311
- Approved electives to total 24 credits

GRADUATE STUDY

For a concentration leading to the Master of Science degree, see the Graduate School section of this catalog.

COURSES IN GEOGRAPHY

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 201 HUMAN GEOGRAPHY (5)
Patterns of population and settlement; spatial analysis of economic, social and political organization.
- 203 PHYSICAL GEOGRAPHY (4)
Prereq: at least one GUR natural science course at the university level. Principles and techniques in analysis of areal distributions in the natural environment; land forms, water, climate, soils, vegetation.
- 205 ECONOMIC GEOGRAPHY (5)
Location analysis of economic activities; interrelationships of resources, industry, trade and transportation.
- 209 GEOGRAPHY AND WORLD AFFAIRS (2)
Geographical analysis of selected demographic, economic, political and social problems of the contemporary world.
- 251 MAP READING AND ANALYSIS (2)
Interpretation of mapsymbols and content at different scales; analysis of different types of maps and charts.
- 270 INTRODUCTION TO PLANNING (5)
Basic elements of urban, regional and resource planning; planning tools and techniques; careers in professional planning.
- 301 RESEARCH AND WRITING (5)
Prereq: Geog 201, 203, 205. Source materials, research and writing techniques; emphasis on the nature and development of geography and planning.
- 310 THE PACIFIC NORTHWEST (3)
Prereq: Geog 201 or 203 or 205. Examination of distribution and character of economic activity, population plus settlement and role of climate, landforms and resources in distributions.
- 311 THE UNITED STATES (5)
Prereq: Geog 201. Topical and regional approaches to selected elements of the physical, cultural and economic characteristics of the nation.
- 313 CANADA (3)
Prereq: Geog 201. Characteristics and distribution of population, economic activities, various aspects of the physical environment and the resource base are examined and analyzed to provide an understanding and appreciation of Canada.
- 315 EAST AND SOUTH ASIA (5)
Prereq: Geog 201. Survey of peoples, regions and resources of East and South Asia in their physical and cultural environments; problems and prospects.
- 319 AFRICA (5)
Prereq: Geog 201. Resources, peoples, regions; economic, social and political development of Africa. Emphasis on area south of Sahara.
- 321 INDIA, PAKISTAN AND BANGLADESH (3)
Prereq: Geog 201. Systematic analysis of the physical and human environments of India, Pakistan and Bangladesh; emphasis on developmental problems.
- 322 THE MIDDLE EAST (3)
Prereq: Geog 201. Environments, economies and societies of Southwest Asia and North Africa; emphasis on current problems.
- 330 GEOGRAPHY OF LANDFORMS (5)
Prereq: Geog 203; Geol 101 recommended. Spatial and temporal variation of landforms; regional analysis of landforms and quaternary reconstructions; relationships of landforms with physical and human systems; applied geomorphology. Field trips.
- 331 CLIMATOLOGY (5)
Prereq: Geog 203; Physics 101 or 114 recommended. Physical basis of climate; macro-scale patterns of world climates; meso- and micro-scale climatology; applied climatology; paleo-climatology and modeling future climate.

Geography/Regional Planning

- 340 POPULATION AND RESOURCES (3)
Prereq: Geog 201 or Soc 321. World distribution of population; patterns of population composition, fertility and mortality. Inter- and intra-regional migrations; resources and population growth.
- 341 URBAN GEOGRAPHY (5)
Prereq: Geog 201. Geographic relations of the modern city with emphasis upon the development, functions and problems of American cities.
- 345 REGIONAL HISTORICAL GEOGRAPHY (3)
Prereq: Geog 201. Analysis of geographical change through time of selected regions of the United States or Canada.
- 351 CARTOGRAPHY (5)
Prereq: Geog 201 or 251. Map and chart design, construction and reproduction; computer mapping.
- 352 COMPUTER MAPPING (4)
Prereq: Geog 351 or CS 110 or 210. Conceptual exploration of existing mapping programs; interactive work with electronic digitizers and cathode ray tube displays; exploration of the capabilities and limitations of various computer-driven graphic display systems.
- 354 ANALYSIS OF AREAL DATA (4)
Prereq: Math 240 or Soc 215; Geog 201 or 270 and 203 or 205. Statistical and cartographic techniques in solving geographic problems.
- 356 REMOTE SENSING OF EARTH SURFACE FEATURES (3)
Prereq: Geog 203 or 251. An introduction to the spectral characteristics of earth surface features. The collection and processing of reflected energy into digital images and subsequent image analysis. Special attention is devoted to the Landsat MSS and TM systems.
- 358 GEOGRAPHIC INFORMATION SYSTEMS (4)
Prereq: Geog 251 or 351, and 354. The collection, storage, analysis and display of spatially referenced data to produce information essential for planning and making decisions in public agencies and private businesses. Principles and concepts of GIS design and operation; practical experience in GIS applications through lab assignments.
- 362 LAND RESOURCE ANALYSIS (3)
Prereq: Geog 201 or 205 or 270. The physical, biological, economic and institutional factors affecting, conditioning and controlling man's use of land.
- 363 NATURAL HAZARDS (3)
Prereq: Geog 203 and 270. Identification and analysis of natural hazards; their distribution and geographic patterns; cause and effects; risk assessment methods and disaster planning. Offered in alternate years.
- 370 THE PLANNING PROCESS (3)
Prereq: Geog 270. Nature of the planning process; survey and analysis, goal formulation; plan development and implementation.
- 406 THE TEACHING OF GEOGRAPHY (3)
Prereq: Geog 201 and five additional credits in geography. Source materials and methods of geographic instruction.
- 431 WATER RESOURCES (5)
Prereq: Geog 330 or 331; CS 101 or equivalent; Geog 354. The role of water in the environment. The nature of water use and resulting problems; measures of control; data analysis and presentation.
- 432 GEOGRAPHY OF SOILS (3)
Prereq: Geog 330. Soil characteristics and processes; description and classification, factors of soil development; spatial and temporal variation; application of soils in paleoenvironmental reconstruction. Field trips and laboratory study.
- 452 ADVANCED CARTOGRAPHY/GIS (4)
Prereq: Geog 351 and 358. Analysis and application of cartographic techniques and geographic information systems to practical mapping and resource management projects.
- 453 FIELD METHODS IN GEOGRAPHY (3)
Prereq: Geog 351. Recording, mapping, and analysis of physical and cultural features.
- 456 DIGITAL IMAGE PROCESSING (4)
Prereq: Geog 356. The use of microcomputers in converting satellite-obtained digital data into enhanced color images of the earth's surface; algorithms include signature training, unsupervised classification, filtering, convolution and eigen pictures.

- 460 THE URBAN ENVIRONMENT (3)
 Prereq: Geog 201 and 203; 341 recommended. Comparative patterns and processes of urban-economic change in the industrial and non-industrial world. Emphasis on urban environmental development issues and conflict
- 461 NATURAL RESOURCES MANAGEMENT (3)
 Prereq: Geog 354; Geog 209 recommended. Optimal use of natural resources, methods of balancing benefits versus the costs incurred; emphasizes the variety of perspectives from which management policies can be developed and modeling tools can be made available.
- 462 TRANSPORTATION SYSTEMS AND PLANNING (3)
 Prereq: Geog 201 or 205. Locational and network analysis of local, regional and national systems; transportation and planning.
- 464 THE DEVELOPING WORLD: SPATIAL PROBLEMS, STRATEGIES AND SOLUTIONS (3)
 Prereq: Geog 201 or 205 and Geog 315 or 319. Analysis of selected geographical problems of major countries and regions of Africa, Asia and Latin America, population pressure, agricultural productivity; resource appraisal and utilization, urban-industrial growth; urban and regional planning.
- 470 PLANNING STUDIO (6)
 Prereq: Geog 370. Analysis and synthesis of significant socio-economic biophysical and cultural resources used in planning; preparation of a land-use or other plan for a selected region.
- 471 PLANNING PRACTICUM (6-12)
 Prereq: completion of two-thirds of major requirements and permission of instructor. Participation in aspects of community development and planning under professional and academic supervision.
- 475 FIELD CAMP (3)
 Prereq: Geog 201, 203 and permission of instructor. Methods of geographical field investigation.
- 486 SEMINAR IN SYSTEMATIC GEOGRAPHY (3)
 Prereq: Geog 301. Selected topics in cultural, economic or physical geography. May be repeated for credit.

GRADUATE COURSES

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 HISTORY AND PHILOSOPHY OF GEOGRAPHY (4)
 Prereq: graduate status. Evolution of geographic concepts, philosophy and methodology.
- 510 QUANTITATIVE TECHNIQUES IN GEOGRAPHY (5)
 Prereq: Geog 354 or equivalent. Methods of gathering and analyzing data for the solution of geographical and regional planning problems.
- 521 SEMINAR IN SYSTEMATIC GEOGRAPHY: HUMAN (5)
 Prereq: Geog 501 and 510. Investigation and research in sub-field of human geography including an evaluation of the methods and techniques employed in that sub-field
- 522 SEMINAR IN SYSTEMATIC GEOGRAPHY: PHYSICAL (5)
 Prereq: Geog 501 and 510. Investigation and research in the sub-field of physical geography including an evaluation of the methods and techniques employed in that sub-field.
- 535 ENVIRONMENTAL PROBLEMS AND REGIONAL DEVELOPMENT (5)
 Prereq: five graduate credits. Cities and regions as complex systems of interdependent natural and human elements; key problems and approaches to their solution through planning.
- 551 RESEARCH PROBLEM (5)
 Prereq: Geog 521 or 522. Formulation and development of hypotheses for a thesis. Development of the necessary methodology; preparation of bibliography and review of literature.
- 590 GRADUATE COLLOQUIUM (1)
 Current trends and issues in geographic research. To be repeated each year of enrollment in program.
- 690 THESIS (6)
 Prereq: advancement to candidacy for the master's degree and appointment of thesis adviser and thesis committee.

Geology

The natural setting of Western Washington University adjacent to the Cascade Mountains and Puget Sound provides an ideal situation for study of a wide variety of geologic problems.

FACULTY

At the present time the department consists of 13 faculty members who have a broad range of backgrounds covering the entire field of geology. There are about 50 undergraduate students declaring geology majors and approximately 35 graduate students in the department.

FACILITIES AND EQUIPMENT

Geology is a science which studies the earth, including its surfaces, interior and history and the processes which have altered it through time. It embraces investigation of the natural environment both in the field and in the laboratory. The Department of Geology occupies modern laboratories, classrooms and offices constructed in 1976 in the Environmental Studies Center. Geology laboratory facilities and equipment are available for X-ray diffraction, atomic absorption, sedimentation, air photo interpretation, flume and wave tank studies, paleomagnetic analysis, geochemistry, petrography and scanning electron microscopy. The Sundquist Marine Laboratory at Shannon Point near Anacortes provides facilities for studies in marine geology.

PROGRAMS

Objectives of the department are varied, including preparation of undergraduate and graduate students for

careers as professional geoscientists and also preparation of earth science teachers at the primary and secondary levels.

A wide variety of geologic phenomena in the adjacent Cascade Range and the marine environment of Puget Sound provide a broad spectrum of geologic features for study.

A number of concentrations are offered within the geology program.

These include:

- Coastal Geology
- Economic Geology
- Environmental Geology
- Geochemistry
- Geomorphology
- Geophysics
- Glacial Geology
- Hydrology
- Paleomagnetism
- Paleontology
- Petrology
- Sedimentation
- Stratigraphy
- Structure and Tectonics

STUDENT INVOLVEMENT IN RESEARCH

The faculty in the Department of Geology are active in a wide variety of on-going research projects that frequently involve undergraduate and graduate students in special projects and thesis projects or provide employment. Some of this research is funded or partially supported from grants to individual faculty members from the National Science Foundation, U.S. Geological Survey, National Parks Commission, Office of Ecology and geological-related companies. Many of these projects are in the Western Washington region, others include investigations in other parts of the United States, Canada, and even overseas.

GEOLOGY FACULTY

- CHRISTOPHER A. SUCZEK (1977) Chair, Associate Professor. AB, University of California, Berkeley; PhD, Stanford University.
- RANDALL S. BABCOCK (1967) Associate Professor. AB, Dartmouth College; MS, PhD, University of Washington.
- MYRL E. BECK, JR (1969) Professor. BA, MS, Stanford University; PhD, University of California at Riverside.
- EDWIN H. BROWN (1966) Professor. AB, Dartmouth College; MSC, University of Otago; PhD, University of California, Berkeley.
- ROBERT A. CHRISTMAN (1960) Professor. BS, MS, University of Michigan; PhD, Princeton University.
- DON J. EASTERBROOK (1959) Professor. BS, MS, PhD, University of Washington.
- DAVID C. ENGBRETSON (1983) Associate Professor. BA, Western Washington University; MS, PhD, Stanford University.
- THOR A. HANSEN (1985) Professor. BS, George Washington University; PhD, Yale University.
- HARVEY M. KELSEY (1984) Associate Professor. BA, Princeton University; PhD, University of California, Santa Cruz.
- ELIZABETH R. SCHERMER (1990) Assistant Professor. BS, Stanford University; PhD, Massachusetts Institute of Technology.
- MAURICE L. SCHWARTZ (1968) Professor and Dean of Graduate School and Research. BA, MS, PhD, Columbia University.
- JAMES L. TALBOT (1976) Professor of Geology. BA, University of Cambridge; MA, University of California, Berkeley; PhD, University of Adelaide.
- ANTONI WODZICKI (1977) Professor. BE, University of Otago; MS, University of Minnesota; PhD, Stanford University.

Research Associates

- Glenn W. Berger (1986)
BS, MS, PhD, University of Toronto.
- Russell F. Burmester (1978)
BS, Stanford University; MA, University of Texas, Austin; PhD, Princeton University.
- Susan M. Cashman (1988)
BA, Middlebury College; MS, PhD, University of Washington.
- Jimmy Diehl (1977)
BA, MS, Western Washington State College; PhD, University of Wyoming.
- Suzanne Beske Diehl (1977)
BA, University of Minnesota; MS, Western Washington State College; PhD, University of Wyoming.

BACHELOR OF ARTS

Major — Geology 50 credits
plus supporting courses
An accompanying minor in one of the

sciences or in mathematics is recommended.

- Geol 211, 212, 304 or 305, 306, 310, 316, 318, 407
- Electives under advisement from Geol 300, 314, 340, 352, 400, 410a, 410b, 414, 415, 430, 432, 440, 453, 454, 455, 461
- Supporting courses: Chem 121, 122; Physics 114 or 121; Math 124; 16 additional credits under advisement in physics, biology, chemistry or mathematics

Minor — Geology 25 credits

- Geol 211, 212
- Electives under departmental advisement

BACHELOR OF ARTS IN EDUCATION

The Geology Department recommends for teaching endorsement those students who have satisfactorily completed requirements for the bachelor's degree in education with 1) an earth science secondary major or 2) a geology minor combined with a major in one of the other physical or biological sciences.

*Major — Earth Science**Elementary* 50-51 credits

- Geol 211, 212, 304, 306, 310 and 407
- Chem 115 or 121; Geog 203; Geog 331 or Geol 252; Physics 114; Astron 103
- Electives under departmental advisement from Geol 214, 314, 315, 316, 318, 340, 352, 399, 400, 410a, 410b, 414, 415, 430, 440; Geog 431, 432; Astron 315, 316; Biol 406

*Major — Earth Science —**Secondary* 61-63 credits

- Geol 211, 212, 214, 304 or 305, 306, 310, 340, 407
- Geog 331 or Geol 252; Physics

Geology

114; Astron 315; Chem 121; Sci Ed 491, 492

- At least one elective from Geol 314, 315, 316, 318, 352, 399, 400, 410a, 410b, 414, 415, 418, 420, 430, 440; Geog 203, 431, 432; Astron 316

It is recommended that this major be accompanied by a minor in chemistry, physics or biology.

Combined Major — Earth Science/General Science — Secondary 88 credits

This major leads to recommendation for teaching endorsements in earth science (4-12) and science (4-12).

- Geol 211, 212, 304 or 305, 306, 310, 407
- Geog 331 or Geol 252
- Chem 121, 122, 123
- Physics 114, 115, 116 (or 121, 122, 123) and Astron 315
- Biol 121, 122, 123
- Sci Ed 491, 492
- 3-5 additional credits under advisement

Minor — Geology 25 credits

- Geol 211, 212
- Electives under departmental advisement

BACHELOR OF SCIENCE

Major — Geology 110 credits

This program is recommended for students who are preparing to become professional geologists and intend to enroll in a graduate program or enter industry upon completion of degree.

- Geol 211, 212, 305, 306, 310, 316, 318, 352, 399, 410a, 410b, 415, 418, 419, 420
- Supporting courses to total at least 49 credits, including: Chem 121, 122, 123; Physics 121, 122, 123, 125; Math 124, 125 (or 128); Comp Sci 110 or higher; and Math 204 or 240
- Remaining credits under advisement from biology, chemistry, computer science, geology,

math or physics to total 110 credits

Students concentrating in biostratigraphy or paleontology may be allowed substitutions in biology under advisement:

Students preparing for graduate work are advised to complete one year of a foreign language.

Major — Applied Environmental Geology

113 credits

This major is designed to provide students with a general background of courses for a career in environmental geoscience. Areas of expertise which are developed through this curriculum include hydrology, geologic hazards, structural mapping and geologic site evaluation.

Core Program (required courses)

- Geol 211, 212, 304, 306, 310, 314, 318, 352, 407, 410a, 410b, 415, 452, plus one of the following: Geol 413, 472, 473, 474, 475
- Geog 432
- Chem 121, 122, 123
- Physics 121, 122, 123, 125
- Math 124, 125 (or 128), 204, 224; Comp Sci 110 or higher

Students should note that because of the large number of credits required in this major, either their electives outside of the program will be relatively limited or more than four years will be required for the B.S. degree.

Major — Geophysics

110 credits

- Geol 211, 212, 304, 306, 318, 352, 407 (or 418 and 420), 410a, 410b, 415, 452, and at least one from 453, 454, 455
- Chem 121
- Math 124, 125 (or 128), 204, 224, 225, 226, 331; Comp Sci 110
- Physics 121, 122, 123, 221, 222

Geophysics Extended Minor

40 credits

Suitable only for majors in a physical

science or others with a strong background in mathematics and physics. **NOTE:** A number of these courses have prerequisites:

- Geol 211, 212, 304, 306, 352, 407, 452, 453
- A minimum of four credits from the following: Geol 314, 316, 410a, 410b, 415, 432, 454, 455

DEPARTMENTAL HONORS

A geology major who wishes to graduate with departmental honors must include Geology 399.

Students in the University honors program must also satisfy this departmental requirement.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the Graduate School section of this catalog.

COURSES IN GEOLOGY

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 101 **GENERAL GEOLOGY (4)**
Prereq: Math 102 or equivalent. Introduction to geology for non-science majors: practical applications of geology; processes that have produced the earth and its landforms. Laboratory included. Geology majors and those having had geology in high school should take Geology 211.
- 102 **PLATE TECTONICS AND CONTINENTAL DRIFT (4)**
Prereq: Geol 101 or equivalent. Emergence of the theory of plate tectonics and its revolutionary impact on geologists' thinking about the history of the earth; an instance of scientific discovery. For non-science majors.
- 211 **PHYSICAL GEOLOGY (5)**
Prereq: high school or college chemistry; open to students with credit in Geol 101 only with permission of department. Origin, composition, and structure of earth. Identification of common rocks and minerals; the evolution of the surface features of continents, and interpretation of landforms from maps. Laboratory included.
- 212 **HISTORICAL GEOLOGY (4)**
Prereq: Geol 211 (or Geol 101 and Geol 300 [lab]). Evolution of the major features of the earth surface and of life; history of the ocean basins, continents and mountain belts related to the theory of plate tectonics; geologic history of North America and the Pacific Northwest.
- 213 **DINOSAURS AND THEIR ENVIRONMENT (3)**
Prereq: Geol 101. Dinosaurs and their world; what they looked like, how they lived, why they died and what the world was like during their reign.
- 214 **ENVIRONMENTAL GEOLOGY (3)**
Prereq: Geol 101 or 211. The interaction between geological processes and human activities. Emphasis on geologic hazards such as earthquakes, landslides, floods and volcanic eruptions. Relevant aspects of soil and water analysis.
- 252 **THE EARTH AND ITS WEATHER (4)**
Prereq: Geol 101. Chem 101 or Physics 101. An introduction to meteorology from a global viewpoint. A study of the earth's atmosphere, including weather observation and forecasting. Measurement and description of atmospheric properties.
- 304 **CRYSTALLOGRAPHY (1)**
Prereq: Geol 211. Introduction to crystallography with emphasis on crystal study fundamental to mineral identification. Not open to those with credit in Geol 305. Can be taken concurrently with Geol 306.
- 305 **CRYSTALLOGRAPHY AND CRYSTAL CHEMISTRY (3)**
Prereq: Geol 211 and Chem 121 or equivalent. Introduction to crystallography, crystal chemistry and chemical principles fundamental to study of minerals.
- 306 **MINERALOGY (5)**
Prereq: Geol 304 or 305. Origin, occurrence, and classification of common minerals; physical and chemical properties of minerals used in identification.
- 310 **GEOMORPHOLOGY (5)**
Prereq: Geol 211. Origin and evolution of topographic features by surface processes; analysis of glaciers, streams, wind, waves, ground water, and other agents in development of landforms.

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- 314 ENVIRONMENTAL AND ENGINEERING GEOLOGY (3)**
Prereq: Geol 211, Physics 121; open to students with credit in Geol 214 only with permission of department. Application of geologic principles to problems of environmental science and engineering, including properties of earth materials, evaluation of geologic hazards, surface and ground-water hydrology, geochemistry and geomorphology. Intended for students with science background.
- 315 MINERALS, ENERGY AND SOCIETY (4)**
Prereq: Geol 101 or 211. Mineral resources are vital to society, and yet they are non-renewable, expensive to find, unevenly distributed and their extraction and consumption can be environmentally damaging. Can we make economically and environmentally sound decisions regarding land use planning, development vs conservation, mining vs. environmental protection, recycling vs. waste?
- 316 PRINCIPLES OF PALEONTOLOGY (4)**
Prereq. Geol 212. Life on the earth as revealed by its inhabitants, past and present.
- 318 STRUCTURAL GEOLOGY (4)**
Prereq: Geol 211, 212; Physics 121. Description, classification, and interpretation of earth structures; laboratory solution of structural problems by use of geologic maps.
- 340 GEOLOGICAL OCEANOGRAPHY (3)**
Prereq: Geol 211, Chem 101 or 121 or equivalent. Nature and origin of major structural features within the ocean basins and distribution of recent marine sediments.
- 352 INTRODUCTION TO GEOPHYSICS (4)**
Prereq: Geol 318, Physics 121. Basic elements of geomagnetism, seismology, gravity, and heat flow with reference to the internal structure of the earth.
- 396a,b,c HONORS TUTORIALS (2-5)**
- 399 SEMINAR IN GEOLOGICAL LITERATURE (1)**
Prereq: 14 credits in geology. Geological reports, papers and discussion.
- 407 PETROLOGY (4)**
Prereq: Geol 306. Origin, occurrence and classification of igneous, sedimentary and metamorphic rocks; hand specimen identification of rocks. Not open to those with credit in Geol 420.
- 410a FIELD THEORY (5)**
Prereq: Geol 211 and permission of instructor. Methods of geological field investigations; use of field instruments. Concurrent enrollment in 410b recommended.
- 410b FIELD METHODS (5)**
Prereq: concurrent or successive enrollment in 410a. Application of geological field trip methods to making geological maps and reports; of specific areas; supervised investigation of one or more map areas.
- 413 FLUVIAL GEOMORPHOLOGY (3)**
Prereq: Geol 310 or permission of instructor. Stream processes, equilibrium in fluvial environments; channel adjustments, mechanics of sediment erosion and transport.
- 414 GEOLOGY OF WASHINGTON (3-5)**
Prereq: Geol 101 or 211. The significant geologic features of Washington State; field studies. Offered summer only.
- 415 STRATIGRAPHY AND SEDIMENTATION (4)**
Prereq: Geol 212; 399 recommended. Analysis of the transportation, deposition and consolidation of sediments; classification of sedimentary rocks; determination of depositional facies; principles of stratigraphic nomenclature.
- 418 OPTICAL MINERALOGY (3)**
Prereq: Geol 306. Optical phenomena as related to mineralogy and identification of minerals from optical properties with the use of the polarizing microscope.
- 419 SEDIMENTARY PETROLOGY LAB (1)**
Prereq: Geol 418 and concurrent enrollment in Geol 415. Study of the origin of sedimentary particles and their lithification and diagenesis; techniques for field study of sedimentary rocks.
- 420 IGNEOUS/METAMORPHIC PETROGRAPHY AND PETROLOGY (5)**
Prereq: Geol 352 and 418. Origin, occurrence and classification of igneous, and metamorphic rocks; hand specimen and thin section identification of minerals.
- 430 MAP AND AERIAL PHOTOGRAPH INTERPRETATION (3)**
Prereq: Geol 310. Identification, interpretation of geologic features using topographic maps and aerial photos. Offered in alternate years.
- 432 ECONOMIC GEOLOGY (5)**
Prereq: Geol 306. Classification, occurrence and origin of ore deposits; fluid specimen study of rock samples from selected mining districts.

- 440 **GLACIAL GEOLOGY (4)**
Prereq: Geol 310. Processes and phenomena of modern and ancient glaciers; effects of Pleistocene glaciations.
- 452 **APPLIED GEOPHYSICS (5)**
Prereq: Geol 352. Geological applications of geophysical techniques.
- 453 **PLATE TECTONICS (4)**
Prereq: Geol 352. Kinematics and dynamics of plate motions, with applications to geotectonics.
- 454 **GEOTECTONICS AND EARTH PHYSICS (4)**
Prereq: Geol 352; Geol 453 recommended. Mechanical and thermal properties of the earth, with special applications to orogenic belts. Normally offered alternate years with Geol 455.
- 455 **PALEOMAGNETISM (4)**
Prereq: Geol 352 and one year of college physics. Origin and interpretation of natural magnetism in rocks; origin and behavior of the geomagnetic field; geological interpretation. Normally offered alternate years with Geol 454.
- 461 **ANALYTICAL GEOCHEMISTRY (2)**
Prereq: Geol 306, Chem 122, 123. Introduction to analysis of rocks, soil and water. Methods include atomic absorption spectrophotometry, ion chromatography, gas chromatography, and quadrupole mass spectrometry as well as gravimetric, volumetric and colorimetric analysis.
- 472 **HYDROLOGY (4)**
Prereq: Geol 211, Math 105, calculus desirable. Study of the hydrologic cycle, with emphasis on geologic and engineering aspects.
- 473 **GROUNDWATER HYDROLOGY (4)**
Prereq: Math 124; Geol 472 recommended. Principles of hydrogeology, with emphasis on groundwater resources.
- 474 **ADVANCED STUDIES IN HYDROLOGY (3)**
Prereq: Geol 472 or 473 or permission of instructor. Advanced topics in hydrology; topics will vary but will include one or more of the following: water yield and vegetation, snow hydrology, runoff generation, groundwater flow in the unsaturated zone, applied hydrogeology investigations, groundwater contamination.
- 475 **INTRODUCTION TO GROUNDWATER MODELING (4)**
Prereq: Math 124; Geol 472 or 473 recommended; computer literacy recommended. The application of Poisson and Laplace equations to steady-state groundwater flow regimes. Equations are defined using finite differences and finite element analysis.
- 480 **GEOLOGICAL LAB TECHNIQUES (1-2)**
Prereq: Geol 306, 418. X-ray, optical and analytical techniques used in advanced laboratory studies. S/U grading.
- 490 **SENIOR THESIS (3-6)**
Prereq: senior status. Research project under direction of faculty

Graduate Courses

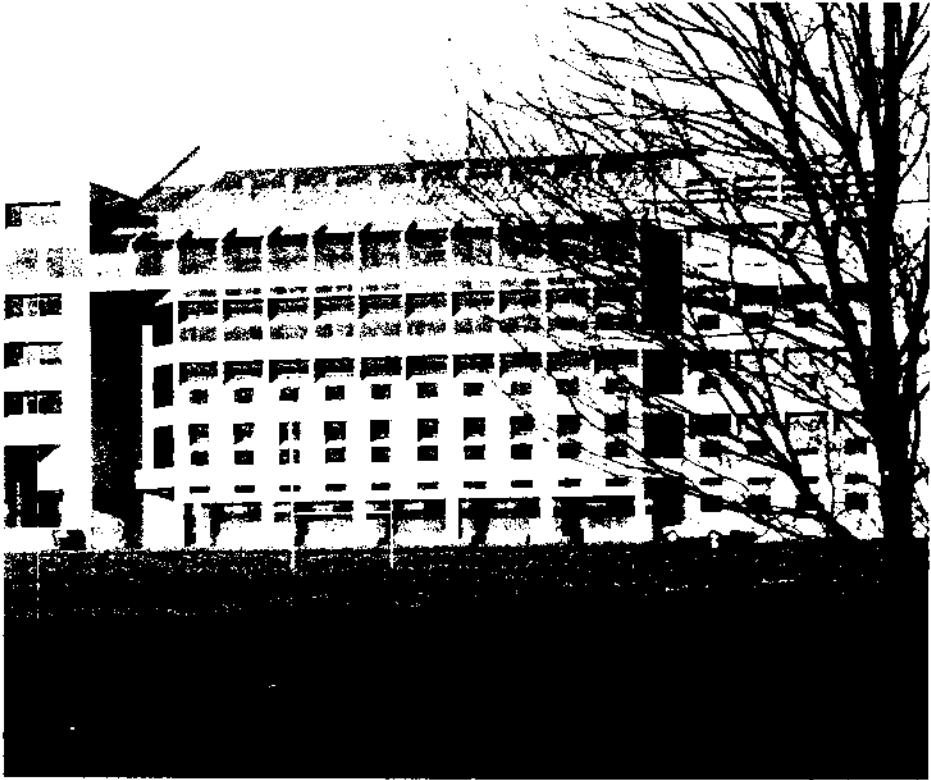
Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 507 **COASTAL GEOLOGY (4)**
Prereq: Geol 310 or 340. Nearshore oceanography, coastal processes, coastal engineering, and research methods in the field.
- 511 **ADVANCED STUDIES IN PHYSICAL GEOLOGY (3)**
Prereq: Geol 420 or permission of department. Independent or class study of recent advances in physical geology.
- 514 **FLUVIAL GEOMORPHOLOGY (3)**
Prereq: Geol 310, calculus recommended. Fluvial hydraulics. Mechanics of sediment erosion and transport. Channel adjustments to water and sediment discharge. Offered on alternate years.
- 516 **ADVANCED STUDIES IN BIOSTRATIGRAPHY AND PALEONTOLOGY (3)**
Prereq: Geol 316 or permission of instructor. Independent or class study of recent advances in biostratigraphy, paleontology and micropaleontology.
- 518 **SEDIMENTATION AND TECTONICS (3)**
Prereq: Geol 415. Analysis of the depositional framework, plate tectonic setting and tectonic evolution of sedimentary basins, both marine and non-marine, including tectonic and environmental controls on facies relationships.

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- 523 **IGNEOUS PETROLOGY AND PETROGRAPHY (5)**
Prereq: Geol 420 or equivalent. Advanced classification of igneous rocks and minerals. Petrogenesis of volcanic and plutonic suites and their relation to the plate tectonic model.
- 524 **SEDIMENTARY PETROLOGY AND PETROGRAPHY (5)**
Prereq: Geol 419, 420 or equivalent. Description, classification and interpretation of sedimentary rocks, including provenance, depositional history and diagenesis. Advanced lab stresses work with the petrographic microscope.
- 525 **METAMORPHIC PETROLOGY AND PETROGRAPHY (5)**
Prereq: Geol 420 or equivalent. Advanced course in metamorphic petrology. Subject matter includes graphical and mathematical analysis of phase relations, field and laboratory study of metamorphic structures, and microscope study of metamorphic minerals and textures.
- 528 **DEPOSITIONAL ENVIRONMENTS (3)**
Prereq: Geol 415 or equivalent. Depositional framework of marine and continental sedimentary basins. Study of the means by which depositional environments of sedimentary rocks are determined.
- 530 **MAP AND AERIAL PHOTOGRAPH INTERPRETATION (3)**
Prereq: Geol 310 or equivalent. Use of air photos and topographic maps in interpretation of geologic features.
- 532 **ECONOMIC GEOLOGY (5)**
Prereq: Geol 418; Chem 123. Geology and geochemistry of ore deposits. Microscopic study of ore minerals, hydrothermally altered rocks and fluid inclusions from selected districts.
- 536 **PALEOECOLOGY (4)**
Prereq: Geol 316 or permission of instructor. Independent or class study in interpretation of fossil organisms from skeletal morphology and associated features; reconstruction of marine ecosystem relations from the study of assemblages of fossils.
- 540 **GLACIAL GEOLOGY (4)**
Prereq: permission of instructor. Physics of glacial movement; processes of glacial erosion and deposition. Effects of Pleistocene climatic changes.
- 546a,b **COMPUTER APPLICATIONS IN GEOLOGY (3 ea)**
Prereq: permission of instructor; prior use of micro-computers required. Geological data management and problem solving using the computer. S/U grading.
- 550a,b **STRUCTURAL ANALYSIS OF DEFORMED ROCKS (2 ea)**
Prereq: permission of instructor. Analysis of geologic structures at all scales. Structural regimes and plate tectonics.
- 551 **NEOTECTONICS (3)**
Prereq: permission of instructor. Study of the style, mechanism and rates of late Quaternary crustal deformation. Topics include investigation of land surface deformation due to late Quaternary tectonism as well as aspects of paleoseismology.
- 552a,b **ADVANCED STUDIES IN GEOPHYSICS (4 ea)**
Prereq: Geol 453 or 454 or permission of instructor. Advanced topics in geophysics.
- 553 **PLATE TECTONICS (4)**
Prereq: Geol 352. Kinematics and dynamics of plate motions, with applications to geotectonics.
- 554 **GEOTECTONICS AND EARTH PHYSICS (4)**
Prereq: Geol 352; Geol 553 recommended. Mechanical and thermal properties of the earth, with special application to orogenic belts. Normally offered alternate years with Geol 555.
- 555 **PALEOMAGNETISM (4)**
Prereq: Geol 352 and one year of college physics. Origin and interpretation of natural magnetism in rocks; origin and behavior of the geomagnetic field; geological interpretation. Normally offered alternate years with Geol 554.
- 556 **PRINCIPLES OF OROGENY (5)**
Prereq: Geol 318, 352, and 407 or 420. Application of geologic and geophysical tools to gain understanding of earth's orogenic belts.
- 560 **GEOLOGIC PHASE EQUILIBRIA (3)**
Prereq: permission of instructor. Analysis of geologic phase equilibria in terms of classical thermodynamics. Review of current research literature and seminar presentations.
- 561 **ANALYTICAL GEOCHEMISTRY AND HYDROGEOCHEMISTRY (2)**
Prereq: permission of instructor. Analysis of inorganic and organic constituents in rocks, soils, and water. Techniques used include atomic absorption spectrophotometry, iron chromatography, gas chromatography, and quadrupole mass spectrometry, as well as computer methods of data reduction.



572 HYDROLOGY (4)

Prereq: Geol 211, Math 105, one year of calculus. Study of components of the hydrologic cycle, including properties of water, evaporation, evapotranspiration, water budgets, infiltration, runoff processes, flood prediction, channel hydraulics and sediment transport.

573 GROUNDWATER HYDROLOGY (4)

Prereq: Math 124; Geol 572 recommended. Occurrence, movement and characteristics of groundwater; basic principles of flow in porous media; hydraulics of wells and earth dams; groundwater exploration, development, quality and management. Emphasis will be on practical applications of geology and basic principles of groundwater hydraulics to water resource problems.

574 ADVANCED STUDIES IN HYDROLOGY (3)

Prereq: Geol 572 or 573, or permission of instructor. Advanced topics in hydrology; topics will vary but will include one or more of the following: water yield and vegetation, snow hydrology, runoff generation, groundwater flow in the unsaturated zone, applied hydrogeology investigations, groundwater contamination.

575 GROUNDWATER MODELING (4)

Prereq: Math 124, 125 (or 128), and 204 or 240; Geol 572 or 573; computer literacy recommended. The application of Poisson and Laplace equations to steady-state groundwater flow regimes. Equations are defined using finite differences and finite element analysis.

580 FIELD SEMINAR IN REGIONAL GEOLOGY (3)

Prereq: graduate status. Weekend field excursions to introduce graduate students to the geology of the Pacific Northwest and areas of research interest. S/U grading.

595 SEMINAR IN CONTEMPORARY GEOLOGY PROBLEMS (1)

Prereq: graduate status in department. Presentation of contemporary subjects in geology. Repeatable to 3 credits. S/U grading.

690 THESIS (2-12)

Thesis research.

History

Without a knowledge of the past, we are, as one writer has phrased it, "like victims of collective amnesia groping in the dark for our identity." History as a discipline is rooted in that fundamental human urge, curiosity. It confronts and weighs the relative significance of chance, inevitability and choice in the passage of time. History is humanistic in its emphasis on the influence of ideas and values, its capacity to both instruct and entertain, and as interpretive literature.

In its investigation of social processes, groups and institutions, and the examination of human motivation, it is a social science. It acts as a bridge among disciplines, borrowing from all and contributing a sense of context and sequence to the perception of actions and individuals. The American historian, Carl Becker, wrote: "The value of history is, indeed, not scientific but moral: by liberalizing the mind, by deepening the sympathies, by fortifying the will, it enables us to control, not society, but ourselves — a much more important thing; it prepares us to live more humanely in the present and to meet rather than to foretell the future."

HISTORY FACULTY

- DONALD W. WHISENHUNT (1991) Chair. Professor. BA, McMurry College; MA, PhD, Texas Tech University.
- STEPHANIE E. CRISTELOW (1985) Associate Professor. BA, San Diego State University; MA, PhD, University of California, Santa Barbara.
- ROLAND L. DE LORME (1966) Professor and Provost/Vice President for Academic Affairs. AB, University of Puget Sound, MA, University of Pennsylvania; PhD, University of Colorado.
- SUSAN AMANDA EURICH (1986) Assistant Professor. BA, Portland State University; MA, PhD, Emory University.
- ALAN GALLAY (1988) Associate Professor. BA, University of Florida; MA, PhD, Georgetown University.
- LEONARD M. HELFGOTT (1970) Associate Professor. BA, MA, PhD, University of Maryland.
- JAMES H. HITCHMAN (1966) Professor. BA, Willamette University; MA, PhD, University of California, Berkeley.
- THOMAS C. R. HORN (1964) Assistant Professor. BA, University of Pittsburgh; MA, PhD, University of California, Berkeley.
- HARRY D. JACKSON (1967) Associate Professor. BEd, Wisconsin State University, Whitewater; MA, PhD, The University of Iowa.
- EDWARD H. KAPLAN (1968) Associate Professor. BS, Georgetown University; MA, PhD, The University of Iowa.
- ELIZABETH MANCKE (1989) Assistant Professor. BA, Colorado College; MA, University of British Columbia; PhD, Johns Hopkins University.
- GEORGE E. MARIZ (1970) Professor. BA, MA, PhD, University of Missouri.
- JAMES B. RHOADS (1983) Professor. BA, MA, University of California, Berkeley; PhD, The American University.
- HARRY R. RITTER (1969) Professor. BA, University of Arizona; MA, PhD, University of Virginia.
- HENRY G. SCHWARZ (1969) Professor of East Asian Studies and History. BA, MA, PhD, University of Wisconsin.
- LOUIS W. TRUSCHEL (1970) Associate Professor. BA, Pacific Lutheran University; MA, PhD, Northwestern University.

BACHELOR OF ARTS

At least one-half the total credits taken in fulfillment of the following programs must be in upper-division courses.

Major — History 60 credits*

*Half must be in upper-division courses.

For this program history courses are grouped into the following fields:

- United States
- Europe
- East and South Asia
- Africa and Middle East
- Western Hemisphere (outside U.S.)

Credits to be distributed as follows:

- Four courses in one of the above fields
- Three courses in a second field
- Two courses in a third field
- History 499 (3 credits)
- Electives under advisement

The Department recommends that majors take the maximum permissible number of history courses in the General University Requirements program. Twelve history credits of General University Requirements may be applied toward a major or minor. (See the General University Requirements in the College of Arts and Sciences section of this catalog.) Further, history majors are encouraged to enroll in *Methods of Research and Analysis* (History 398), which offers practical training in the tools of historical research.

It is strongly recommended that majors who elect a four-course history concentration in a field where languages other than English predominate take enough language study to become proficient in an appropriate foreign language. Students planning on graduate study in history are cautioned that many graduate schools require foreign language proficiency for admission.

A minimum grade point average in history of 2.50 is required for graduation.

Minor — History 25 credits*

*Half must be in upper-division courses.

- United States
- Europe
- East and South Asia
- Africa and Middle East
- Western Hemisphere (outside U.S.)

Credits should be distributed as follows:

- Three courses in one of the above fields
- Two courses in a second field
- Electives under advisement

A minimum grade point average in history of 2.50 is required for graduation.

Minor — Foreign Cultures 25 credits*

*Half must be in upper-division courses.

The History Department offers a minor in foreign cultures for foreign

language majors and other interested students. Credits to be distributed as follows:

- Two background courses in modern European history (Hist 425, 426, 427, 428, 429)
- Two courses in one of the following areas: France and the French-speaking world (Hist 277, 386, 441, 442); Germany (Hist 431, 432); Latin America (Hist 271, 273, 473); Russia (Hist 434)
- Electives under advisement

Area Studies Minor

Minor programs are available in the following fields:

- Canadian-American Studies
- East Asian Studies
See the individual program sections of this catalog.
- Latin American Studies
See listing in this department.

Courses taken for credit in these programs may not be counted toward the major.

BACHELOR OF ARTS IN EDUCATION

The department recommends that students take its offerings in the General University Requirements program, up to 12 history credits of which may be applied toward a major or minor in history. (See the General University Requirements section of this catalog.)

At least one-half the total credits taken in fulfillment of the following programs must be in upper-division courses.

A minimum grade point average in history of 2.50 is required for graduation and recommendation for teaching endorsement.

Major — History — Junior and Senior High School 60 credits*

*Half must be in upper-division courses.

History credits should be distributed

History

under advisement as follows:

- Three courses in United States history
- Two courses in European history
- Two courses from one of the following three areas:
 - East and South Asia; or
 - Africa and Middle East; or
 - Western Hemisphere (outside U.S.)
- Hist 391, 499
- Electives under advisement

NOTE: Students majoring in secondary education must also complete the specific program requirements for social studies education, including the social studies minor. See the Social Studies Education Program section of this catalog.

Completion of this major/minor program leads to a teaching endorsement in history and social studies at the secondary level.

Major — History —

Elementary 45 credits

- Two courses in United States history
- Two courses in European history
- Two courses from one of the following areas:
 - East and South Asia; or Africa and Middle East; or Western Hemisphere (outside U.S.)
- Hist 391
- Electives under advisement

A minimum grade point average in history of 2.50 is required for graduation and recommendation for teaching endorsement. At least 15 of the credits must be in upper-division courses.

LATIN AMERICAN STUDIES

This program is offered so that students interested in the area of Latin America may be able to concentrate a portion of their academic work in this area free of the stricture of departmental programs and to make more viable the relationships among the separate courses in this area offered by the departments of this University.

A major in Latin American Studies is available through the student-faculty designed majors program (see Liberal Studies section of this catalog).

Minor — Latin American Studies

30 credits

- 15 credits in Spanish 100 and 200 level courses, or demonstration of proficiency
- 15 credits in courses relating to Latin America

For further information and advisement, consult the Department of History, Humanities Building 275.

GRADUATE STUDY

For concentrations leading to the Master of Arts degree and for information concerning the archival training program, see the Graduate School section of this catalog.

COURSES IN HISTORY

Courses numbered X37, X97: 300, 400: 417, 445 are described on pages 38-39 of this catalog.

- 103, 104 INTRODUCTION TO AMERICAN CIVILIZATION (5 ea)
 - 103 American History to 1865
From the European background to the end of the Civil War.
 - 104 American History Since 1865
From the end of the Civil War to the present.
- 111, 112, 113 INTRODUCTION TO WESTERN CIVILIZATION (5 ea)
 - Need not be taken in sequence. Human development in the Western world; emphasis upon ideas, institutions, forces and movements shaping contemporary life.
 - 111 Prehistory to 476 Survey of the political, social and cultural history of occidental civilization from prehistory to the collapse of the Roman empire.
 - 112 476-1713 Survey of the cultural, political, social and economic history of Europe from the early Middle Ages to the signing of the Treaty of Utrecht.
 - 113 1713-Present Survey of the political, social, economic and diplomatic history of Europe from the opening of the Enlightenment to the present.

- 233 **SURVEY OF MODERN RUSSIAN HISTORY AND CULTURE (5)**
Elements of Russian history and culture from the time of Peter the Great (1689) to the present, with particular emphasis on the autocratic and revolutionary traditions in Russian history.
- 261 **BLACK HISTORY IN THE AMERICAS (5)**
The cultures and achievements of blacks in the Americas.
- 267 **CHRISTIANITY IN HISTORY (5)**
A survey of Christian institutions and doctrines from their inception to the present, including a study of the intellectual, social and economic forces which have influenced their development.
- 271 **INTRODUCTION TO LATIN AMERICAN CIVILIZATION (5)**
A survey of various themes such as Hispanidad, Indianismo, the Church, the peasant, urbanism, the army, which together make up the Latin American experience.
- 273 **LATIN AMERICA (5)**
From the period of early Spanish and Portuguese colonization to the present.
- 275 **THE INDIAN IN AMERICAN HISTORY (5)**
Prereq: sophomore status. Events and persons critical to history of North American Indians; review of interpretations of Indian cultures and history.
- 277 **CANADA (5)**
Canadian history from the period of French colonization to the present.
- 280 **INTRODUCTION TO EAST ASIAN CIVILIZATION (5)**
The origins and evolution of the political, economic and social aspects of East Asian civilization to the present.
- 285 **INTRODUCTION TO AFRICAN CIVILIZATIONS (5)**
An introduction to the history of Africa, with emphasis on the development of African societies and civilizations from antiquity to modern times.
- 286 **MODERN AFRICA (5)**
History of Africa during and after colonial rule. Emphasis is on African reactions to European rule, nationalist movements and the problems of independence.
- 287 **INTRODUCTION TO ISLAMIC CIVILIZATION (5)**
A thematic approach to religious and cultural aspects of Middle Eastern society; the development of Islam as a body of religious thought and practice; and major cultural movements in the Middle East.
- 315 **MEDIEVAL CIVILIZATION (5)**
Prereq: Hist 111, Lbrl 121 or permission of instructor. A history of medieval society, culture and politics from the invasion of Europe by the barbarians to the close of the Hundred Years War.
- 336 **COMPARATIVE IMPERIALISMS: SELECT CASE STUDIES (5)**
Prereq: sophomore status. An examination of several imperial powers, their controls and methods, their attitudes to race questions, their influence on the colonial peoples and economies.
- 347 **EUROPEAN INTELLECTUAL HISTORY I (5)**
Prereq: Hist 111 or 112 or Lbrl 121 or 122 or equivalent. A study of the evolution of Western thought from its Greek and Hebrew origins to the early Middle Ages.
- 348 **EUROPEAN INTELLECTUAL HISTORY II (5)**
Prereq: Hist 113 or Lbrl 123. A study of the evolution of Western thought from the Middle Ages to the present with primary emphasis on the era since 1700.
- 360 **AMERICAN ECONOMIC HISTORY (5)**
Prereq: sophomore status. American economic development from colonial times to the present, with particular emphasis upon later periods.
- 361 **BLACK HISTORY IN THE AMERICAS: THE SLAVERY ERA (5)**
Prereq: an introductory level course to African, American or Latin American history. Africans in bondage in the Americas; African heritage of blacks in the Americas, slavery in Africa and the Americas, with emphasis on the United States, the Caribbean and Brazil.
- 364 **FILM AS HISTORY (4)**
Prereq: any introductory American or European history course or one of the following: Lbrl 121, 122, 123. Readings and related films on selected historical topics; subject and course content varies with instructor. Repeatable once.
- 365 **GREAT PERSONALITIES IN AMERICAN HISTORY (5)**
Prereq: sophomore status. Biographical approach based on evaluation of careers of typical leaders in public affairs, the arts and ideas.
- 366 **WOMEN AND AMERICAN HISTORY (3)**
Prereq: Hist 103 or 104. Contributions of women in the evolution of the colonies and the United States. Particular emphasis is accorded structures and consequences of identifying large groups as peripheral to the major concerns and actions of the whole community.

History

- 367 **AMERICAN SOCIETY AND THOUGHT: 1800-1900 (5)**
Prereq: Hist 103 or 104 or equivalent. Transcendentalism, Romanticism, Slavery, the Utopias; intellectual impact of the Civil War, Social Darwinism as trends in American history.
- 370 **GODS AND DEMIGODS FROM YAO TO MAO: HISTORY OF CHINESE STATECRAFT (5)**
Prereq: Hist 280 or equivalent introductory course. Chinese politics and foreign relations from earliest times to the present.
- 371 **THE CHINESE ECONOMY: FROM STONE AGE TO MAO'S AGE (5)**
Prereq: Hist 280 or equivalent. Chinese economic and social history from earliest times to the present.
- 372 **SAGES, SCRIBES AND SCRIBBLERS: CHINESE INTELLECTUAL HISTORY TO THE PRESENT (5)**
Prereq: Hist 280 or Lbrl 272 or 273 or 274 or equivalent. The religious, intellectual and literary life of China from earliest times to the present.
- 385 **PRE-COLONIAL AFRICA (5)**
Prereq: sophomore status. Development of African societies and states up to the European partition.
- 386 **SOUTHERN AFRICA (5)**
Prereq: sophomore status. Development of African and European societies in South Africa and neighboring states, their relations and conflicts.
- 387 **HISTORY OF THE JEWS (5)**
Prereq: one of the following — Hist 111, 112, 113, 287, or Lbrl 121, 122, 123, or any upper-division European or Middle Eastern history course. An analysis of Jewish history and culture in medieval and modern Europe and in the classical and modern Middle East culminating in the development of the Jewish state in the Middle East.
- 388 **EAST AFRICA (3)**
Prereq: sophomore status. Imperialism, African nationalism and recent conflicts in Kenya, Tanzania, Uganda, Somalia and Mozambique.
- 390 **TOPICS IN HISTORY (3-5)**
Prereq: junior status. Specialized topics in history. The subject of each individual course and its prerequisite will be announced in the class schedule. Repeatable to 10 credits.
- 391 **HISTORY OF THE PACIFIC NORTHWEST (3)**
Prereq: sophomore status. General history of the Pacific Northwest, state development, samples of local history, and state and local government. Required for certification of secondary school social studies teachers.
- 398 **METHODS OF RESEARCH AND ANALYSIS (3)**
Prereq: Hist 103 or 104 and Hist 111, 112, or 113. Familiarizes students with the application of a wide variety of historical methods and tools. Designed to develop writing skills, it also focuses on different techniques in data analysis, source criticism and historiography.
- 410 **ANCIENT NEAR EAST (5)**
Prereq: Hist 111 or Lbrl 121. Examines the development of civilization from 5,000 to 500 BC in the Near East and Central Mediterranean regions with close attention to the Egyptians, Babylonians, Hittites, Mycenaeans, Hebrews and Assyrians.
- 411 **ANCIENT GREECE AND THE HELLENISTIC WORLD (5)**
Prereq: Hist 111 or Lbrl 121 or permission of instructor. The Greek world from King Minos of Crete to Alexander the Great.
- 413 **A HISTORY OF ROME AND THE ROMAN EMPIRE (5)**
Prereq: Hist 111, Lbrl 121 or permission of instructor. The political and cultural transformation of Rome from village to empire, and its fragmentation in the 5th and 6th centuries.
- 414 **A SOCIAL AND ECONOMIC HISTORY OF GREECE AND ROME (4)**
Prereq: Hist 111, Lbrl 121 or permission of instructor. A study of ancient urban and rural economies and the roles played in each by diverse social groups, including women and slaves.
- 415 **THE BYZANTINE EMPIRE (5)**
Prereq: Hist 111 or 112, or Lbrl 121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).
- 416 **EARLY FRANCE AND THE AGE OF CHIVALRY (4)**
Prereq: Hist 315 or any 300-level history course. Analysis of social and political change within the region now known as France, from its habitation by Celts, Romans and Franks to its eventual dominance over the continent in the mid 15th century.

- 418 **MEDIEVAL ENGLAND (4)**
Prereq: Hist 315 or any 300-level history course. Social, religious and political accommodations made by a pagan, insular people in response to successive conquests by Celts, Romans, Saxons, Vikings and Normans. Traces continuity and change over nearly 15 centuries and witnesses the evolution of distinctive English culture.
- 420 **THE RENAISSANCE AND THE REFORMATION (5)**
Prereq: Hist 112 or Lbrl 121; open to sophomores with permission of instructor. Transition from the Medieval to the Modern: Western Europe from the eve of the Hundred Years War to the Treaty of Westphalia (1337-1648).
- 421 **ECONOMIC AND SOCIAL HISTORY OF EARLY MODERN EUROPE (4)**
Prereq: Hist 112. An examination of the transition toward a capitalist, industrialized economy and society in Western Europe, with particular attention to roles played by gender, class, religion, technology and political institution.
- 425 **MODERN EUROPE: 1648-1789 (5)**
Prereq: junior status. Development of the modern state system and the conflict between monarchs and the growing middle class.
- 426 **MODERN EUROPE: 1789-1850 (5)**
Prereq: junior status. Political, economic, social, and diplomatic developments between the French Revolution and mid-nineteenth century.
- 427 **MODERN EUROPE: 1850-1914 (5)**
Prereq: junior status. From the age of "Realpolitik" to First World War.
- 428 **MODERN EUROPE: 1914-1945 (5)**
Prereq: junior status. The First World War and the results of that conflict, attempts at world organization, the states of Europe between the wars, the Second World War.
- 429 **EUROPE SINCE 1945 (5)**
Prereq: junior status. Major political, economic and social developments; origin and operation of the cold war and attempts of Europe to adjust to the changing status of the continent.
- 431 **GERMANY FROM 1815 TO 1914 (5)**
Prereq: senior status. From the wars of liberation to the First World War.
- 432 **GERMANY FROM 1914 TO PRESENT (5)**
Prereq: senior status. The impact of World War I; the Weimar Republic, the Third Reich and the period since 1945.
- 434 **THE RUSSIAN REVOLUTIONS AND THE SOVIET REGIME (5)**
Prereq: junior status. An examination of the Bolshevik experience, with particular emphasis upon ideology and party history. Course addresses itself particularly to the question of why the revolution failed.
- 439 **ENGLAND: 1688-1832 (5)**
Prereq: Hist 113 or Lbrl 122 or equivalent. Political, social, economic and diplomatic history of England from the Glorious Revolution to the Reform Bill of 1832; constitutional developments of the period.
- 440 **ENGLAND: 1832 TO THE PRESENT (5)**
Prereq: Hist 113. Lbrl 123 or equivalent. Political, social, economic and diplomatic history of England from the Reform Bill of 1832 to today; development of parliamentary institutions; impact of the World Wars of the twentieth century on British politics, economics and society.
- 441 **FRANCE: 1453-1815 (5)**
Prereq: Hist 112 or 113 or Lbrl 122 or equivalent. Analysis of the transformation of France from a multilingual, multicultural kingdom to centralized nation-state; special attention to competing religious confessions, family organization and the State, Louis XIV's policies and the French Revolution and the Napoleonic achievement.
- 442 **FRANCE SINCE 1815 (5)**
Prereq: Hist 113, Lbrl 123 or equivalent. Social, economic and political development of France since Napoleon with special emphasis on: the impact of the Revolution on 19th century society and politics, the effects of industrialization, the secularization of French culture, and post-war efforts to retain a distinct place in world politics.
- 449 **TWENTIETH CENTURY EASTERN EUROPE (5)**
Prereq: junior status. The place of the East European nations — Poland, Czechoslovakia, Hungary, Yugoslavia, Romania, Bulgaria, Albania — in European and world politics. Offered in alternate years.
- 450 **AMERICAN COLONIAL HISTORY TO 1776 (5)**
Prereq: junior status. The settlement of the English colonies in America and their political, economic, religious and social development to the mid-18th century; colonial reaction to imperial policies in the context of internal partisan politics from 1763 to the Declaration of Independence.
- 453 **THE MIDDLE PERIOD: 1812-1840 (5)**
Prereq: junior status. The struggle between republican and democratic forces in a milieu of social, technological, economic, international and religious flux.

History

- 454 **THE CIVIL WAR AND RECONSTRUCTION (5)**
Prereq: junior status. Development of rival nationalisms; problems of war in North and South; efforts toward reunion; new problems in 1877.
- 455 **THE AMERICAN REVOLUTION (5)**
Prereq: senior status. Nature of colonial society, mid-18th century; origins of the patriot movement; military course of the war and the effect of war on the composition of American society.
- 456 **THE NEW REPUBLIC (5)**
Prereq: senior status. Social, political and economic adjustments to independence from the Articles of Confederation through the War of 1812.
- 458 **THE UNITED STATES: 1900-1941 (5)**
Prereq: junior status. Political, social and economic trends from the beginning of World War I to World War II.
- 459 **THE UNITED STATES SINCE 1941 (5)**
Prereq: junior status. Internal and international consequences of the rise of the United States as a world power since World War II.
- 461 **DIPLOMATIC HISTORY OF THE UNITED STATES (5)**
Prereq: junior status. The United States in world affairs from colonial times to the present.
- 469 **ORIGINS OF THE OLD SOUTH (5)**
Prereq: senior status. Analysis of processes which transformed southern colonies into a distinct region: interaction of Indians, blacks and whites; evolution of slavery and the plantation system; competing concepts of family, place and economy; influence of climate and geography; politicization and ideology.
- 473 **SELECTED MAJOR LATIN AMERICAN STATES IN THE 20th CENTURY (5)**
Prereq: junior status. A contemporary history of major states of current interest.
- 474 **HISTORY OF MEXICO (5)**
Prereq: junior status. Mexican history from pre-conquest Indian cultures to the present.
- 477 **CANADA SINCE 1945 (4)**
Prereq: junior status. Canadian internal and external developments since 1945.
- 478 **THE REGIONS OF CANADA (5)**
Prereq: junior status. A study of the unique characteristics and historical development of the regions of Canada. Atlantic Canada, Central Canada, the West, the North.
- 480 **ANCIENT AND EARLY IMPERIAL CHINA (5)**
The evolution of early civilization and the first stage of high civilization in China through the Han dynasty.
- 481 **IMPERIAL CHINA FROM THE FALL OF HAN TO MID CH'ING (5)**
Political, socio-economic and intellectual trends during the eras of highest development of the imperial system.
- 482 **CHINA FROM LATE CH'ING TO THE PRESENT (5)**
Dissolution of the imperial system and experimentation with new political ideas and institutions; social and intellectual developments to the present.
- 483 **ANCIENT JAPAN (5)**
Prereq: one of the following or equivalent: Hist 280, East Asian 201, 202. Origins of the Japanese people, language and culture; the rise of the aristocratic age: court life, aesthetics, literary values, religious beliefs; the masterpieces of Heian literature; the decline of the aristocracy and the rise of the warrior class.
- 487a.b **THE MIDDLE EAST (5 ea)**
Prereq: junior status.
487a The Traditional Middle East
From the 6th Century to 1800
487b Middle East, 1800 to the present
- 488 **MODERN EGYPT, LIBYA, AND THE NILE VALLEY (5)**
Prereq: senior status. The emergence of modern states in Northeast Africa including Egypt, Libya, the Sudan, Ethiopia, and Uganda in an age of imperialism and nationalism.
- 491 **SURVEY OF COMMUNITY HISTORY (2)**
Prereq: Hist 391. A survey of local history, with emphasis upon the interrelated local, regional, and national factors involved in the development of selected communities of the Pacific Northwest.
- 499 **HISTORICAL RESEARCH (3)**
Prereq: one upper-division course in field of 499 topic. Research and writing of a formal paper on a topic developed by the student. The student will normally work under an instructor within the field of his choice.

Graduate Courses

Courses numbered 500: 517: 545: 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

NOTE: Timetable of Classes will designate a reading seminar with "r" and a writing seminar with "w."

- 501 HISTORIOGRAPHY (4)
A survey of the methods and concepts of historical research, analysis, and writing from ancient to modern times.
- 512 THE ANCIENT WORLD (4)
Prereq: one upper-level course in ancient history or permission of instructor.
- 515 MEDIEVAL HISTORY (4)
Prereq: Hist 315, or permission of department. Selected studies from the Fall of Rome to the Renaissance.
- 520 RENAISSANCE AND REFORMATION (4)
Readings in the history of Europe from 1337-1648.
- 533 RUSSIAN HISTORY (4)
Prereq: Hist 434 or equivalent, or permission of the department.
- 536 BRITISH HISTORY (4)
Prereq: one undergraduate course in English history or permission of the department.
- 540 MODERN EUROPEAN HISTORY (4)
Prereq: Hist 428 or equivalent or permission of the department.
- 550 COLONIAL AMERICAN HISTORY (4)
Prereq: Hist 450 or equivalent or permission of the department.
- 554 CIVIL WAR AND RECONSTRUCTION (4)
- 558 20th CENTURY AMERICAN HISTORY (4)
- 561 AMERICAN DIPLOMATIC HISTORY (4)
- 563 AMERICAN CONSTITUTIONAL HISTORY (4)
Prereq: permission of the department.
- 566 AMERICAN SOCIETY AND THOUGHT (4)
- 568 ADVANCED SEMINAR IN ARCHIVES AND RECORDS MANAGEMENT (4)
Prereq: Hist 599a,b. Readings in selected aspects of archives administration and the management of current records and information systems.
- 571 CANADA (4)
Prereq: permission of the department.
- 573 LATIN AMERICA (4)
Prereq: permission of the department.
- 581 IMPERIAL CHINA (4)
Selected readings from the period.
- 582 REPUBLICAN AND COMMUNIST CHINA (4)
Prereq: Hist 482 or equivalent or permission of the department. Readings in the history of China from 1912 to the present.
- 583 ANCIENT JAPAN (4)
Prereq: graduate status in history and Hist 483. Readings in Japanese historical writings up to the Meiji Restoration.
- 585 MODERN JAPAN (4)
Prereq: graduate status in history and Hist 484. Readings in Japanese historical writings from the Meiji Restoration to the present.
- 587 SEMINAR IN MIDDLE EASTERN HISTORY (4)
- 588 AFRICA (4)
Prereq: undergraduate preparation in African history, or permission of instructor.
- 591 SEMINAR IN AMERICAN WESTERN AND REGIONAL HISTORY (4)
- 592a,b,c SEMINAR IN HISTORICAL RESOURCES ADMINISTRATION (4,4,10)
Prereq: 592a,b: graduate status in history; 592c: approval of department graduate program committee. Readings, research, writing and internship experience in the theory and applications of historical resources administration.
- 595 HISTORY AND PRINCIPLES OF ARCHIVES ADMINISTRATION AND RECORDS MANAGEMENT (6)
Prereq: minimum of 25 undergraduate credits of history or allied discipline.
- 596 PROBLEMS IN ARCHIVES ADMINISTRATION (4)
Prereq: Hist 595. Detailed examination of problems in the administration of archives, manuscripts, and primary source materials in other media.
- 598 PROBLEMS IN RECORDS MANAGEMENT (4)
Prereq: Hist 595. Detailed examination of problems in the management of current and semi-current records and other information resources.
- 599a,b INTERNSHIP IN ARCHIVES AND RECORDS MANAGEMENT (10 ea)
Prereq: Hist 596 or 598. Professional internship in a cooperating agency or organization.



**690a RESEARCH AND WRITING SEMINAR:
THESIS (4)**

Introduction to research, the use of primary source materials, auxiliary sciences, problems of interpretation, textual criticism and the use of bibliographical aides. A knowledge of foreign language or the use of statistics or computer programming may be required depending upon the topic of research.

**690b RESEARCH AND WRITING SEMINAR:
THESIS (4)**

Prereq: Hist 690a. Continuation of research begun in Hist 690a.

**690c RESEARCH AND WRITING SEMINAR:
THESIS (4)**

Prereq: Hist 690b. Emphasis upon writing the thesis.

Home Economics

HOME ECONOMICS — A DEFINITION

Home economics has as its focus the well-being of individuals and families; home economics in the 1990s looks at the relationships between people and environments. In the Home Economics Department, the faculty, staff and students work together to create a teaching-learning environment that emphasizes common concepts, competencies which help individuals function more effectively as members of families and the professional community.

The programs in home economics help students develop knowledge and skills that will be of value in solving everyday problems, not only in their present lives but also in their future. Home economics has an interdisciplinary, cohesive and global outlook. The role and mission of the Department of Home Economics is to interpret its content to enhance personal development and family welfare.

"Home economics is a profession because it affords a life career, involves intellectual activities and responsibilities, demands a body of specialized theoretical knowledge, skills and attitudes, has a well-defined function, exalts service above personal gain and demands continual growth."*

**Home Economics: An Introduction to a Dynamic Profession, 2nd edition, Macmillan Pub., p. 10*

SUSPENSION OF ENROLLMENT

The last opportunity for students to be admitted to any program currently offered by the Department of Home Economics is fall quarter, 1991. Students who wish to earn a major in any home economics program listed in this catalog must be formally admitted by the chair of the Department of

Home Economics prior to the beginning of classes fall quarter, 1991.

A complete schedule of courses for the final two years of each program offered by the department is included in this catalog following the description of each program. The schedules describe the only opportunity that students will have to take these courses since no home economics courses will be offered after spring quarter, 1993.

HOME ECONOMICS FACULTY

- ROSALIE ROSSO KING (1983) Chair.
Professor. BS, University of Washington; MEd, Massachusetts State College at Framingham; PhD, University of Washington.
- LOU KUPKA-SCHUTT (1985) Lecturer. BA, University of Northern Iowa; MS University of Washington.
- JANE E. ROBERTS (1966) Associate Professor. BS, MS, PhD, University of Wisconsin.

BACHELOR OF ARTS

Major — General Home Economics 110 credits

NOTE: The last opportunity for admission to this program will be prior to the beginning of classes fall quarter, 1991.

The student seeking a Bachelor of Arts degree in general home economics is required to take courses in each of the five areas of home economics. Students may concentrate additional home economics elective courses in one or two areas to meet a specific goal or career objective. In addition to the wide scope of courses in home economics, a student selects supporting courses from other departments, under departmental advisement.

Graduates with a degree in general home economics find opportunities in government, business and industry. The general background is desir-

Home Economics

able for preparation in consumer relations, mass media, and social, health and family services.

- Concentration requirements: Credits from each home economics area listed below, with faculty advisement, totaling 70 credits.
 - Child Development/Family Relationships
 - Foods and Nutrition
 - Textiles and Clothing
 - Housing, Furnishings and Design
 - Family Economics/Home Management
- Supporting courses: Econ 206 or 207 plus 36 credits from disciplines other than home economics. A total of 12 GUR credits may be applied toward supporting course requirements.

GENERAL HOME ECONOMICS

Schedule of courses for final 2 years of program.

ACADEMIC YEAR 1991-92

Junior Year		
Fall '91	Winter '92	Spring '92
122 (3)	175 (3)	353 (5)
250 (3)	338 (3)	369 (3)
332 (3)	365 (5)	371 (3)
334 (3)	450 (5)	456 (5)
364 (3)	370 (3)*	445 (3)*
417d (3)*		432 (3)*
Total credits: 15	16	16

Senior Year		
Fall '91	Winter '92	Spring '92
371 (3)	322 (5)	454 (5)
475 (3)	410 (2)*	
Total credits: 6	5	5

*Electives for junior or senior year.

ACADEMIC YEAR 1992-93

Senior Year		
Fall '92	Winter '93	Spring '93
371 (3)	322 (5)	421 (3)
475 (3)	350 (3)	454 (5)
334 (3)*	338 (3)*	445 (3)*
332 (3)*	410 (2)*	432 (3)*
Total credits: 6	8	8

*Electives

Major — Interior Design and Merchandising 105 credits

NOTE: Entrance into this program occurs fall only by competitive entry and written permission of the department. The last opportunity for admission to this program will be prior to the beginning of classes fall quarter, 1991.

This concentration is designed for the student desiring a professional interior design education. The program is based on the premise that education is the first component in the preparation of a professional interior designer. That training includes formal interior design education, entry-level experience in the form of internships and satisfactory completion of a program that prepares students to pass qualifying examinations for entrance into the profession.

The responsibility to make decisions affecting the health, safety and welfare of the public is addressed as well as knowledge of anthropometrics and ergonomics, proxemics and behavioral theory; requirements for special populations (i.e., disabled, elderly); interior construction and detailing; lighting HVAC, physical attributes of materials, installation methods; building codes; fire codes and life safety requirements; industry product standards; business practices; specification writing for interior construction and furnishings. This program follows the guidelines of The Foundation for Interior Design Education Research (FIDER). Important aspects of the program include: opportunity to apply design concepts to situations within the community or University; and field trips relevant to the design industry, meeting with professionals in the field and working with the actual resource library.

Early advising is important for this program; classes must be taken in sequence and prerequisites followed.

A competitive selection process at the end of the sophomore year includes a portfolio review, a grade

point average of 2.75 and successful completion of General University Requirements as well as supporting courses. Acceptance gives students entry to a professional sequence of interior design classes at the junior and senior level.

Another competitive selection process at the end of the junior year includes a portfolio review and a grade point average of 3.00 within the program. Acceptance completes the competitive selection process.

Career opportunities in the interior design field are varied: interior design, interior furnishings, merchandising, facilities management, marketing, retailing, residential and contract design, product design, historic preservation, communications and education.

- Concentration requirements: Home Econ 175, 310, 328, 329, 360, 361, 362, 364, 365, 369, 371, 372, 376, 400, 412, 475, 476, 480, 482 (93 credits)
- Supporting courses: 3 credits basic computer; 4 credits art history; 3 credits business, including economics, marketing, management and finance. Suggested: art and art-related course work for use in portfolio. Must be completed before acceptance into program. (10 credits)
- All GUR credits must be completed before acceptance into program. A total of 12 GUR credits may be applied toward supporting course requirement
- Electives: Highly recommend that these credits come from the variety of specialized classes offered by design professionals during summer school or specialized classes with the Center for Apparel Design and Fashion Marketing. (2 credits)

INTERIOR DESIGN AND MERCHANDISING

Schedule of courses for final 2 years of program.

ACADEMIC YEAR 1991-92

Junior Year		
Fall '91	Winter '92	Spring '92
329 (5)	328 (5)	362 (5)
380 (5)	361 (5)	369 (3)
364 (3)	365 (5)	372 (5)
376 (3)		371 (3)
Total		
credits: 16	15	16

Senior Year		
Fall '91	Winter '92	Spring '92
445 (3) CAD	480 (3)	310 (3)
475 (3)	482 (8)	400 (5)
476 (8)		412 (8)
Total		
credits: 14	11	16

ACADEMIC YEAR 1992-93

Senior Year		
Fall '92	Winter '93	Spring '93
445 (3) CAD	480 (3)	310 (3)
475 (3)	482 (8)	400 (5)
476 (8)		412 (8)
Total		
credits: 14	11	16

Major — Apparel Design

90 credits

NOTE: Entrance into this program occurs fall only by competitive entry and written permission of the department. The last opportunity for admission to this program will be prior to the beginning of classes fall quarter, 1991.

A discipline embracing both artistic and technical endeavors, the apparel design option prepares students to project abstract ideas and concepts to a usable and salable product. The curriculum is planned to familiarize the student with business and communication skills as well as historic, psychological, social and ethnic studies in conjunction with practical and technical preparation.

- Concentration requirements: Home Econ 175, 301, 316, 318, 319, 364, 380, 381, 382, 383, 384,

Home Economics

385, 387, 388, 390, 394, 395, 396, 398, 461, 465, 491 (78 credits)

- Supporting courses: Econ 206 and 207 and FMDS 435 (12 credits)

APPAREL DESIGN

Schedule of courses for final 2 years of program.

ACADEMIC YEAR 1991-92

Junior Year		
Fall '91	Winter '92	Spring '92
318 (3)	175 (3)	319 (3)
364 (3)	381 (3)	387 (3)
380 (3)	385 (5)	396 (4)
384 (5)	395 (4)	398 (3)
394 (4)		
Total credits: 18	15	13

Senior Year		
Fall '91	Winter '92	Spring '92
301 (4)	383 (5)	316 (3)
318 (3)	390 (2)	461 (3)
382 (5)	410 (2)	491 (5)
388 (3)	465 (3)	
	FMDS 435 (4)	
Total credits: 15	16	11

ACADEMIC YEAR 1992-93

Senior Year		
Fall '92	Winter '93	Spring '93
301 (4)	383 (5)	316 (3)
318 (3)	390 (2)	461 (3)
382 (5)	465 (3)	491 (5)
388 (3)	FMDS 435 (4)	
Total credits: 15	14	11

Major — Fashion Marketing 92 credits

NOTE: Entrance into this program occurs fall only by competitive entry and written permission of the department. The last opportunity for admission to this program will be prior to the beginning of classes fall quarter, 1991.

The fashion marketing discipline encompasses creative and productive efforts to include those fields in international manufacturing and

wholesaling as well as retail work. The curriculum is planned to prepare students in the special skills of human resource management, merchandising, marketing, promotion, buying and data processing and also consists of all essential activities involved in planning, acquiring and selling soft goods.

- Concentration requirements: Home Econ 175, 301, 303, 305, 306, 307, 308, 309, 310, 318, 319, 364, 380, 388, 394, 395, 396, 398, 461, 465, 491 (72 credits)
- Supporting courses: Econ 206 and 207, Mgmt 311 and 322, FMDS 435 (20 credits)
- Electives: 20 credits

FASHION MARKETING

Schedule of courses for final 2 years of program.

ACADEMIC YEAR 1991-92

Junior Year		
Fall '91	Winter '92	Spring '92
301 (4)	175 (3)	306 (4)
303 (4)	305 (4)	307 (4)
364 (3)	318 (3)	319 (3)
394 (4)	395 (4)	396 (4)
		398 (3)
Total credits: 15	14	18

Senior Year		
Fall '91	Winter '92	Spring '92
309 (3)	310 (3)	308 (2)
318 (3)	410 (2)	461 (3)
380 (3)	465 (3)	491 (5)
388 (3)	FMDS 435 (4)	Mgmt 322 (4)
Mgmt 311 (4)		
Total credits: 16	12	14

ACADEMIC YEAR 1992-93

Senior Year		
Fall '92	Winter '93	Spring '93
309 (3)	310 (3)	308 (2)
318 (3)	465 (3)	461 (3)
380 (3)	FMDS 435 (4)	491 (5)
388 (3)		Mgmt 322 (4)
Mgmt 311 (4)		
Total credits: 16	10	14

Minor — Home Economics 25 credits

Prior consultation and departmental program approval are required of students wishing to secure a minor in home economics.

BACHELOR OF ARTS IN EDUCATION

Major — Secondary Vocational Home Economics

Enrollment suspended.

BACHELOR OF SCIENCE

Interdisciplinary Nutrition Program

The focus of the Interdisciplinary Nutrition Program is human nutrition. It is collaborative in nature and draws from faculty and courses throughout the university. The Interdisciplinary Nutrition Program is designed to prepare students for employment or advanced study in one of several professions, including public health nutrition, nutritional sciences and consumer advocacy in nutrition. The Interdisciplinary Nutrition Program is based on minimum academic requirements for membership in the American Dietetic Association. Students interested in community nutrition, research or other special aspects of nutrition are encouraged to seek advice from any of the participating faculty members.

Interdisciplinary Nutrition Program Faculty

LORRAINE BRILLA, Department of Physical Education, Health and Recreation/Parks.

LOU KUPKA-SCHUTT, Department of Home Economics.

GERRY A. PRODY, Department of Chemistry.

DON C. WILLIAMS, Department of Biology.

MING-HO YU, Huxley College.

For further information about the program contact Lou Kupka-Schutt (676-3373) or Ming-Ho Yu (676-3504).

Major 101-112 credits

- Biol 101, 345, 348, 349
- Econ 206
- Chem 121, 122, 123, 251, 371
- Home Econ 250, 350, 353, 450, 454, 456
- Envr 352, 452, 453, 454
- Mgmt 311
- Math 240
- Psych 201, and 321 or 351
- Soc 101

Minor 25 credits

- Home Econ 250, 350, 450
- Envr 352, 452, 454

INTERDISCIPLINARY NUTRITION

Schedule of courses for final 2 years of program.

ACADEMIC YEAR 1991-92

	Junior Year		
	Fall '91	Winter '92	Spring '92
	250 (3)	450 (5)	353 (5) 456 (5)
Total credits:	3	5	10

	Senior Year		
	Fall '91	Winter '92	Spring '92
			454 (5)
Total credits:			5

ACADEMIC YEAR 1992-93

	Senior Year		
	Fall '92	Winter '93	Spring '93
		350 (3)	454 (5)
Total credits:		3	5

PROFESSIONAL PROGRAMS

For information on professional programs, see "Professional Programs" in the All-University Programs section of this catalog.

COURSES IN HOME ECONOMICS

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 122 CHILD AND FAMILY STUDIES (3)
Developmental characteristics of children and families; emphasizing application and a preventive approach, responsibilities of caregivers, interaction of families with other social systems and integration of knowledge from areas related to home economics.
- 175 PERSONAL AND ENVIRONMENTAL DESIGN (3)
Design aspects of the individual's environment; architecture, interiors, urban planning and renewal, clothing and personal adornment. Aesthetic, cultural and ecological study.
- 250 HUMAN NUTRITION (3)
Prereq: general university requirement in chemistry and Biol 101 or equivalent. Basic nutrition principles and applications, food habits and nutritive needs of people.
- 301 FASHION MARKETING I (4)
Prereq: junior status. Introduction to the comparative study of fashion through time and across continents. Survey of concepts, the language of fashion and overview of the industry.
- 303 APPAREL MARKETING MANAGEMENT (4)
Prereq: Home Econ 301. Analysis of factors and concepts used by management in planning, establishing policies and solving marketing problems. Consumer behavior, marketing function, channels, pricing, promotion.
- 305 SALES PROMOTION AND THE MEDIA (4)
Prereq: junior status. Management of advertising, publicity, fashion show production, special events. Theories and practices pertinent to fashion coordination.
- 306 PRINCIPLES OF FASHION SELLING (4)
Prereq: junior status. Principles of good selling techniques, their role and distribution in business methods involved in making sales in the apparel field.
- 307 FASHION RETAILING (4)
Prereq: junior status. Tools, factors and concepts in retail business control, including stock control, store layout, location, organization, policies, activities, systems.
- 308 MEN'S WEAR MARKETING (2)
Prereq: Home Econ 301. The marketing research process and research of men's apparel and accessories market. Problems in forecasting, advertising, budgeting.
- 309 MERCHANDISING PLANNING AND CONTROL (3)
Prereq: Home Econ 301. Knowledge of activities involved in buying and selling functions of retail stores. For those in buying specialties and retail management.
- 310 INTERNATIONAL BUYING: IMPORT/EXPORT (3)
Prereq: Home Econ 301, 309. Survey of the international environment of apparel and textiles. Structure and function of import-export buying at all levels of distribution.
- 314 INTRODUCTION TO INFORMATION SYSTEMS (3)
Prereq: junior status. Structure of management systems and their application to computers in the apparel industry.
- 315 SPECIAL EVENTS: PROMOTION PRODUCTION (1)
Prereq: junior status. (Repeatable one time.) Specialized, individual instruction involving fashion show production. Practical application of coordination, production and promotion.
- 316 TAILORING (3)
Prereq: Home Econ 380, 381. Examination of techniques to tailor suits and coats using traditional methods.
- 318, 319 FASHION ILLUSTRATION I, II (3 ea)
Prereq: Home Econ 318 for Home Econ 319. Drawing the fashion figure and apparel. Studies and compositions in a variety of media.
- 320 ADVANCED COLOR AND DESIGN (3)
Prereq: Home Econ 175. Study of advanced color theories including the history and cultural use of color as applied to interior and fashion design. Studio experience developing knowledge in color preparation and design.
- 322 ADVANCED CHILD AND FAMILY STUDIES (5)
Prereq: Home Econ 122. Development of children from birth through adolescence within the family. Emphasis on physical, cognitive, social and emotional development of children; parenting and parent education; and interaction of the family within its environment.

- 328 **INTERIOR PERSPECTIVE AND DESIGN COMMUNICATION (5)**
Prereq: Home Econ 175; interior design major, and written permission of department. Drawing interiors and exteriors in perspective; elevations; lettering; graphics and beginning computer systems. A studio class.
- 329 **INTERIOR DRAFTING AND DESIGN COMMUNICATIONS I (5)**
Prereq: Home Econ 175; interior design major, and written permission of department. A studio class developing drafting skills; floor plans; elevations; cabinet sections; plans and detail drawing; advanced lettering; and advanced computer systems for interiors.
- 332 **FAMILY RESOURCE MANAGEMENT (3)**
Prereq: Home Econ 122. Interaction of the family and its environment. Concepts of decision-making and resource management: time, energy, money, food, clothing, housing, furnishings and equipment.
- 334 **CONSUMER ISSUES (3)**
Current consumer issues in the economic world; responsibilities and protections. Offered alternate years.
- 338 **FAMILY FINANCE (3)**
Prereq: Econ 206 or 207. Management of family income and expenditures in the changing family cycle.
- 350 **MATERNAL AND CHILD NUTRITION (3)**
Prereq: Home Econ 250. Nutritional needs for pregnancy and lactation; application of nutrition principles to growth and development of children; indices of nutritional status.
- 353 **FOODS AND MEAL MANAGEMENT (5)**
Prereq: Home Econ 250 and written permission of department. Specific principles of food preparation; concepts of management applied to meal service; includes laboratory experience, demonstration and evaluation procedure.
- 360 **INTERIOR DESIGN I (5)**
Prereq: Home Econ 175 and written permission of department. The elements and principles of design; composition (spatial); beginning color studies; two-dimensional design fundamentals. A studio class.
- 361 **INTERIOR DESIGN II (5)**
Prereq: Home Econ 175, 360 and written permission of department. A studio class with emphasis on two-dimensional design and presentation; theories of advanced color; color rendering and presentation for interior space.
- 362 **INTERIOR DESIGN III (5)**
Prereq: Home Econ 360, 361, 175 and written permission of department. A studio class with emphasis on three-dimensional design, advanced spatial composition, model construction and furniture design as related to interior space.
- 364 **TEXTILES: FIBERS AND FABRICS (3)**
Prereq: one course in laboratory science or art or design. Emphasis on the general classification, physical and chemical properties of natural and man-made fibers, fabrication structures, finishes, dyes classes and coloration technique.
- 365 **TEXTILE FIBER AND FABRIC ANALYSIS (5)**
Prereq: Home Econ 364, 10 credits laboratory science classes, junior status. Emphasis on physical characteristics, properties of textile fibers and finishes, particularly as related to fabric performance. Fabric for interiors and apparel will be analyzed using specialized textile test equipment, recognized test methods and data analysis.
- 367 **WEAVING DESIGN (3)**
Prereq: Home Econ 364. Basic fabric construction; emphasis on color, texture and design. Offered alternate years or summers.
- 368 **STUDY TOURS, NATIONAL AND INTERNATIONAL (4-6)**
Prereq: upper-division status; Home Econ 301, 307, 364. Tours of the fashion centers of the world. Yearly option of tour to New York, and alternating yearly tours to Europe or the Orient. Visits to prime fashion houses and manufacturers, costume museums, textile producers.
- 369 **HISTORY AND EVOLUTION OF HOUSING (3)**
Prereq: Home Econ 175, interior design major only. History of housing; housing theories; housing alternatives; history of architectural styles; human factors; design for special concerns (i.e., elderly, barrier free, etc.).
- 370 **HOUSING (3)**
Prereq: Home Econ 175. Housing alternatives for the family; historical, aesthetic and cultural implications.
- 371 **ETHNIC DESIGN (3)**
Prereq: Home Econ 175. The history and development of specific ethnic design as it relates to interiors and cultural needs. Ethnic area will change from year to year and may be taken for credit more than once.

Home Economics

- 372 **BUILDING SYSTEMS (5)**
Prereq: Home Econ 175, 328, 329; 369 recommended. Structural and construction components of interior space; terms and systems; HVAC; lighting; plumbing; electrical; acoustics and energy concerns. theory and practice as related to interiors.
- 376 **FURNITURE HISTORY I (3)**
Prereq: Home Econ 175; 369 recommended, or written permission of department. Gothic through 18th century; furniture, textiles, accessories, decorative arts, architectural and social concerns.
- 380 **CLOTHING CONSTRUCTION I (3)**
Prereq: junior status. Techniques for producing high-quality garments. Emphasis on analysis of construction methods to select correct technique for the fabric and application.
- 381 **CLOTHING CONSTRUCTION II (3)**
Prereq: Home Econ 380. Broader examination of special fabrics and fabrications. Market survey of garments in various price ranges. Development of basic sloper.
- 382 **DRAPING I (5)**
Prereq: Home Econ 380, 381. Introduction to basic draping techniques. Developing basic slopers from standard dress-form. Create a personal dress-form.
- 383 **DRAPING II (5)**
Prereq: Home Econ 382. Development of original designs through the draping method including advanced draping techniques.
- 384 **FLAT PATTERN I (5)**
Prereq: Home Econ 381. Development of the basic pattern blocks. Using this tool, fashion patterns will be created. Basic manipulations to include bodice, skirt and sleeve treatments.
- 385 **FLAT PATTERN II (5)**
Prereq: Home Econ 384. Continuation of skills development. Basic block for pants, coats, suits and advanced dress styles.
- 386 **FLAT PATTERN III (5)**
Prereq: Home Econ 384, 385. Transferring fashion sketches of advanced styling to patterns and sample garments. Special emphasis on original designs.
- 387 **PATTERN DRAFTING AND GRADING (3)**
Prereq: Home Econ 384, 385, 386. Development of basic blocks from standardized sizes. Transferring the blocks through the complete size range. Production pattern and marker construction.
- 388 **DESIGN ROOM TECHNIQUES AND MANUFACTURING PROCESSES (3)**
Prereq: senior status. A study of the work flow through the design room, from designer to sample maker; discussion of typical apparel manufacturing operations.
- 390 **MEN'S WEAR DESIGN (2)**
Prereq: Home Econ 381, 384, 385. Using skills developed in previous course work, the student applies techniques for the design of garments for men.
- 394, 395 **HISTORY OF COSTUME I, II (4 ea)**
Tracing the development of costume and accessories of ancient civilizations through the 19th century. Emphasis on the effect of religion, economic and social influences on clothing styles.
- 396 **TWENTIETH-CENTURY COSTUME (4)**
Prereq: Home Econ 394, 395. Understanding of current designers and the development of couture industry from early 1900s to present. Effect of designers on ready-to-wear market.
- 398 **CROSS-CULTURAL PERSPECTIVES ON TEXTILES AND CLOTHING (3)**
Prereq: junior status. Surveys of ethnic fashion from archaic to modern periods. American, Asian, African, European folk cultures will be examined.
- 410 **PROFESSIONAL ISSUES IN HOME ECONOMICS (2)**
Prereq: home economics major; must have completed 45 credits in required home economics courses. Current issues, public policy, research, concepts and professional development. S/U grading.
- 412 **INTERIOR DESIGN INTERNSHIP (8)**
Prereq: senior status; interior design majors only, written permission of department. Internship with qualified design professionals in Seattle following pre-planned completion of goals and objects which result in a senior paper/project.
- 421 **DEVELOPMENTAL ASPECTS OF ADULTHOOD AND AGING (3)**
Physical, economic, psychological and social changes in the middle and later years. Emphasis on changes in family relationships, finances, living environment and employment. Personal, social and community resources explored. Offered alternate years.
- 432 **HOME MANAGEMENT (3)**
Prereq: Home Econ 332. Application of concepts and principles of home management to group and home living, utilizing lab experiences. Offered alternate years.

450 ADVANCED NUTRITION (5)

Prereq: Home Econ 250 Nutritional needs throughout the life cycle; survey and application of research studies, current issues and trends in nutrition

454 COMMUNITY NUTRITION AND DIET THERAPY (5)

Prereq: Home Econ 450. Nutrition and preventive health care in the community; nutrition assessment, implementation and evaluation of individual nutritional care plans; nutritional management of various disease states. Normally offered alternate years or summer.

456 FOOD SERVICE MANAGEMENT (5)

Prereq: Home Econ 353, Envr 453; junior/senior status. Principles and procedures involved in the management of community food operations, lectures, laboratory, demonstrations. Offered alternative years or summers.

461 CLOTHING AND HUMAN BEHAVIOR (3)

Implications and significance of clothing in Western society, with special emphasis on clothing symbolism, social stratification, development of self-concept and fashion. Normally offered alternate years.

465 DESIGN OF PRINTED TEXTILES I (3)

Prereq: Home Econ 364, 380. An introduction to designing textiles for industry. Development of textile printing processes and how they influence design. Examination of design motifs and pattern repeat structures. Designs are developed on paper and fabric, then painted in gouache for portfolio preparation.

475 FURNITURE HISTORY II (3)

Prereq: Home Econ 175, 376 or written permission of department. 19th through 20th Century; furniture, textiles, accessories, decorative arts, architecture and social concerns. Study of departmental historic chair collection.

476 RESIDENTIAL DESIGN (8)

Prereq: senior status; interior design majors only. A studio class with emphasis on problem solving; space planning, furniture layout and selection, kitchen and bath design, design for special populations. Rendering and visual/oral presentation.

480 RESIDENTIAL AND CONTRACT RESOURCES (3)

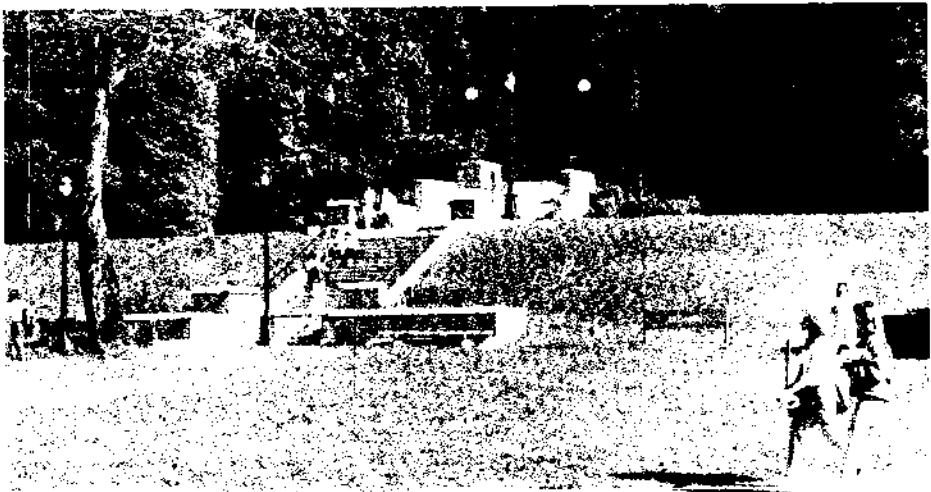
Prereq: senior status, interior design majors only. Emphasis on research and development of resources and resource workrooms; specification of products, standards and codes; estimating; measuring of resources (i.e., fabric, carpet, wall-coverings, etc.).

482 CONTRACT DESIGN (8)

Prereq: senior status; interior design majors only. A studio class emphasizing problem solving space planning, furniture layout and selection, furniture and office systems. Design for special populations. Design for special purposes, historic preservation and adaptive re-use. Design attributes: lighting, color, materials and specification.

491 APPAREL DESIGN/FASHION MARKETING PRACTICUM (5)

Prereq: senior status in apparel design or fashion marketing. Internship program placing the student in a work environment within the industry.



Journalism

The Journalism Department offers a degree program, the Bachelor of Arts, and also maintains a commitment to the liberal arts tradition by offering courses in support of the General University Requirements and other departments.

Journalism majors and minors pursue theoretical and practical communication studies in a liberal arts setting. Students of journalism gain practical experience on Western's prize-winning student media, and majors additionally take field internships with newspapers, magazines, broadcast stations, public relations agencies and other professional organizations.

Courses emphasize the gathering, writing and ethical presentation of news. Understanding news processes and learning to report with accuracy, clarity and precision prepares graduates to communicate swiftly and lucidly in a changing world.

Students are challenged to explore a range of other disciplines and to seek depth in one or more specialized areas through concentrations, major-minor combinations or even double-majors.

Graduates find careers in newspapers, magazines, radio, television, publishing, advertising, public relations, teaching and throughout government and industry wherever communications skills, with general knowledge, are vital.

JOURNALISM FACULTY

- CAROLYN DALE (1977) Chair.
Associate Professor. BA, MC. University of Washington.
- MARILYN BAILEY (1989) Assistant Professor.
BA, MA. Eastern Kentucky University.
- LYLE E. HARRIS (1976) Professor. BA, MA, University of Montana; PhD. University of Missouri.
- FLOYD MC KAY (1990) Assistant Professor. BA, Linfield College; MA, University of Maryland.

PETE S. STEFFENS (1972) Professor. BA, Harvard; BA, MA, Balliol College, Oxford.

BACHELOR OF ARTS

Major — Journalism 60 credits

- Journ 104 or 406
- Journ 190, 204, 304, 340, 350, 404, 470, 480
- Three courses from list (a), one course from list (b) and one additional from list (a), (b) or (c):
 - (a) Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414
 - (b) Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423
 - (c) Journ 431, 432, 433
(may be waived by substitution of equivalent professional experience)
- Journ 430
- 15 upper-division credits in other academic areas under departmental advisement
- Cumulative GPA of 2.50 or higher in major
- A maximum of 55 journalism course credits may be applied toward the 180-credit minimum for graduation

Combined Major —

Environmental Studies/

Journalism 83 credits

See the Huxley College section of this catalog.

Minor — Journalism 25 credits

- Journ 104 or 406
- Journ 160 or 190, 204, 304, 340, 350
- Three staff courses, or equivalent professional experience:
 - (a) Two from: Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414
 - (b) One from: Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423, 431, 432, 433

COURSES IN JOURNALISM

Courses numbered X37; X97: 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 104 NEWSWRITING (3)
Prereq: ability to type 25 or more words per minute. Writing for news media; news elements and values; gathering news, structure and style of news stories; covering speeches and meetings, interviewing.
- 111, 112, 113, 114 NEWSPAPER STAFF (2 ea)
Prereq: freshman status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 121, 122, 123 PERIODICAL STAFF (2 ea)
Prereq: freshman status; Journ 104; one newspaper staff course. Workshop in periodical design, layout and production, training in the creative combination of type, heading, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 160 CURRENT EVENTS AND THE MEDIA (3)
Discussion and interpretation of news in context of interaction with media; for potential journalists and others interested in current events.
- 190 INTRODUCTION TO MASS MEDIA (4)
Introduction to basic issues and problems facing journalists and the public as recipients of mass media messages in national and international society; nature, theory and effects of communication; media systems, structure and support; world news flow; media controls; First Amendment rights; ethical considerations. Credit not allowed for both Journ 190 and Comm 240.
- 204 COPY EDITING (3)
Prereq: Journ 104. News copy desk operations: editing, headline writing; dummying; page make-up.
- 211, 212, 213, 214 NEWSPAPER STAFF (2 ea)
Prereq: sophomore status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 221, 222, 223 PERIODICAL STAFF (2 ea)
Prereq: sophomore status; Journ 104; one newspaper staff course. Workshop in periodical design, layout and production; training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 304 REPORTING (3)
Prereq: Journ 104. Interviewing, news coverage, including campus sources, and standard community news sources, with emphasis on social agencies; writing for news media.
- 305 PHOTOJOURNALISM (3)
Prereq: Tech 260 or equivalent experience; Journ 104. Basics of news photography; use of equipment; news picture planning and coverage; composing effective news pictures; essentials of processing for publication; photographic notes and files; picture editing and layout; professional ethics and the law. (Students must have their own access to darkroom facilities.)
- 310 ADVERTISING IN THE MASS MEDIA (3)
Role of mass media advertising in the economy and advertising methods; research, planning and preparation of the message, selection of media, budgets and schedules; social performance of advertisers.
- 311, 312, 313, 314 NEWSPAPER STAFF (2 ea)
Prereq: junior status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 321, 322, 323 PERIODICAL STAFF (2 ea)
Prereq: junior status; Journ 104; one newspaper staff course. Workshop in periodical design, layout and production, training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.
- 340 THE PRESS AND SOCIETY (3)
Historical backgrounds of journalism, tracing the rise of mass communications in the Western World with social, economic and political trends.
- 350 LAW OF THE PRESS (4)
Rights and legal restrictions on freedom of the press; constitutional guarantees as interpreted through the courts; libel, privacy, access to information, censorship, contempt, agency regulations.
- 351 PRESS ETHICS (3)
Prereq: Journ 104. Introduction to ethical theories; examination of press codes and standards; changing roles of the news media that affect moral reasoning for the journalist; responsibilities of the press in a world of instant communication and reaction; historical perspectives through case studies; use of reporting methods, headlines, pictures, and news play in print and broadcast.

Journalism

360 LITERATURE OF JOURNALISM (3)

Prereq: junior status. Reading and critical evaluation of literature by and about journalists.

390 THE NEWS PROCESS (4)

Critical examination of the news process by visiting news media professionals. Repeatable to 12 credits.

404 FEATURE WRITING (3)

Prereq: Journ 304. In-depth article writing; development of ideas, gathering of materials and writing; special attention to individual interests; exploration of freelance writing markets.



405 PRINCIPLES OF PUBLIC RELATIONS (3)

Prereq: Journ 104 or Eng 101. Methods, tools and media used in planning and developing company, community and institutional public relations programs. Publicity and promotional techniques; copy preparation, news releases, publications, relations with the press.

406 JOURNALISM FOR PUBLICATION ADVISERS (3)

Teaching public school journalism; news elements, values and writing for newspapers. Not open to students who have taken Journ 104.

411, 412, 413, 414 NEWSPAPER STAFF (2 ea)

Prereq: senior status, Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.

421, 422, 423 PERIODICAL STAFF (2 ea)

Prereq: senior status; Journ 104; one newspaper staff course. Workshop course in periodical design, layout and production, training in the creative combination of type, headline, photographs and other illustrative material, text and caption writing; creative layout techniques; publication production; participation on the university periodical.

430 FIELD INTERNSHIPS (6)

Prereq: Journ 204, 304, 350, and newspaper staff courses; written permission. Supervised field work on newspapers, magazines, radio and TV stations, public relations and advertising agencies, or other appropriate professional situations; for journalism majors between junior and senior years; usually during summer session. S/U grading

431, 432, 433 TELEVISION NEWS STAFF (2 ea)

Prereq: Journ 304, one newspaper staff course, and written permission. Workshop course in planning, gathering and preparing news for television; integrating words, sound and pictures; critiques; participation on the staff of the university television news program. Concurrent enrollment in Comm 442 or Tech 442 recommended.

440 PRESS AND WORLD AFFAIRS (3)

The international role and operations of the press; factors affecting the free flow of news; major world news systems.

460 SPECIAL REPORTING PROJECT (3)

Prereq: Journ 350, 404 and three staff courses that include one each on *Klipsun* and *Western Front*. Students will write about and photograph people who have ethnic, national, environmental or cultural backgrounds different from the dominant society; sensitivity to other cultural traditions; advanced reporting and writing skills.

470 MASS COMMUNICATIONS THEORY AND RESEARCH (3)

Prereq: Journ 304. Introduction to theory and research in mass communications, review of pertinent literature; limited field studies.

480 CURRENT PROBLEMS (3)

Prereq: Journ 350. The modern function of the press in a democratic society; virtues and shortcomings of the press in current trends; management structure of media and its interaction with journalistic ethics

Liberal Studies

The Department of Liberal Studies is an interdisciplinary department offering courses in humanities, comparative cultural study and the academic study of religion. Traditionally, study in the "humanities" addresses major ideas about human beings and their place in the universe which have shaped Western society and culture, as these ideas are expressed in language, literature, philosophy, religion and fine arts. "Comparative cultural study," as conducted by the department, addresses these same concerns in the principal civilizations of the Orient and Africa. The "academic study of religion" brings the tools of modern scholarship to bear on the literature and institutions of the religions of mankind, understood as cultural forces. The department is "interdisciplinary" in that its faculty are trained in a variety of academic fields and bring multiple scholarly perspectives to their courses. The department's objectives, implied in its title, are those traditionally associated with "liberal education" and education in the "liberal arts."

The Department of Liberal Studies serves the Western Washington University community in the following ways:

1. The department offers interdisciplinary courses which partially fulfill the WWU General University Requirements in Humanities and in Non-Western and Minority Cultural Studies. (See the University Graduation Requirements section of this catalog for the complete General University Requirements and options for satisfying them.)
2. The department offers a B.A. in humanities and a B.A. in humanities (elementary education). These majors offer integrated study in the materials and perspectives of the humanities. See below.
3. The department offers interdisciplinary minor programs in humanities and in the study of religion, and participates with other departments in the East Asian Studies program.
4. The department administers the Student/Faculty-Designed Major in the College of Arts and Sciences. This program allows students, in consultation with appropriate faculty, to design a course of study in areas not available through existing departmental majors.

Additional information about all of the foregoing is available from the Liberal Studies office (Arntzen Hall 314).

LIBERAL STUDIES FACULTY

- WILLIAM K. B. STOEVER (1970) Chair.
Professor. BA, Pomona College; MDiv, Yale Divinity School; MPhil, PhD, Yale University.
- MICHAEL H. FISHER (1978) Associate Professor. BA, Trinity College; MA, PhD, University of Chicago.
- MILTON H. KRIEGER (1970) Associate Professor. BA, Reed College; PhD, University of Toronto.
- RODNEY J. PAYTON (1970) Associate Professor. BA, MA, Washington State University; PhD, University of Chicago.
- ROBERT F. STOOPS, Jr. (1983) Associate Professor. AB, University of North Carolina at Chapel Hill; MDiv, Harvard Divinity School; MA, PhD, Harvard University
- WILLIAM L. WALLACE (1970) Associate Professor. BS, Appalachian State University (North Carolina); MA, PhD, Ohio University.

BACHELOR OF ARTS

*Major — Humanities**

65-70 credits

The B.A. in humanities provides interdisciplinary study of the humanities (literature, history, philosophy, religion, the arts) in Western and other civilizations. The course of study focuses on the manner in which societies create and modify their cul-

Liberal Studies

ture. It addresses methods of study in the humanities, as well as their traditional content. The major emphasizes reading, critical analysis and writing. Students who complete the major will have substantial acquaintance with significant literary texts, historical development, and principal philosophical and aesthetic currents in Western civilization, and a sense of comparable phenomena in non-Western civilization. Students will have opportunity to develop a sense of historical and cultural context and to develop analytical and expressive skills of broad application. The major is offered in cooperation with the Department of Philosophy.

- Lbrl 121, 122, 123
- One course from each of the following:
 - Phil 112, 201
 - Phil 113, Lbrl 231, 232, 235
 - Phil 205, Lbrl 242, 243
 - Lbrl 271, 272, 273, 274, 275, 276, 277
- Lbrl 302, Eng 304
- Three courses from Lbrl 417a-d
- Electives under advisement from Lbrl 332, 333, 370, 371, 372, 373, 378; Phil 315, 320, 340, 350, 360, 364-369, 420; and other appropriate upper-division courses
- Lbrl 499

An average grade of B in liberal studies courses is required for admission to Lbrl 302. Lbrl 302 and Eng 304 should be completed before enrolling in Lbrl 417a-d. A passing score on the Junior Writing Examination and permission of the instructor are required for enrollment in Lbrl 417a-d. Arrangements regarding topic and faculty adviser for Lbrl 499 should be made at the beginning of the quarter preceding enrollment in the course. Students who are deficient in expository writing may be required to complete an appropriate additional writing course. It is recommended that students undertake study of a foreign language concurrently with the major.

For information or advisement, contact the Liberal Studies office.

Major — Humanities (Elementary Education)*

43 credits

This major offers the same approach and much of the subject matter of the B.A. in humanities (above). It is designed to accompany the professional elementary education program. Students who complete the course of study will have substantial acquaintance with content and perspectives of the humanities in Western culture, and with methods of study that are broadly applicable to the teaching of the humanities.

- Lbrl 121, 122, 123
- Two courses to be chosen from two of the three following groups: Lbrl 231, 232, 235; Lbrl 242, 243; Lbrl 271, 272, 273, 274, 275, 276, 277
- Lbrl 302, Eng 304 (preferred) or 301
- Two courses from Lbrl 417a-d
- Electives under advisement from Lbrl 332, 333, 370, 371, 372, 373, 378, 499 and other appropriate upper-division courses

An average grade of B in liberal studies courses is required for admission to Lbrl 302. Lbrl 302 and Eng 304 or 301 should be completed before enrolling in Lbrl 417a-d. A passing score on the Junior Writing Examination and permission of the instructor are required for enrollment in Lbrl 417a-d. Arrangements regarding topic and faculty adviser for Lbrl 499 should be made at the beginning of the quarter preceding enrollment in the course. Students who are deficient in expository writing may be required to complete an appropriate additional writing course.

For information or advisement, contact the Liberal Studies office. (For information about teacher certification requirements and about the professional curriculum in elementary education, contact the Department of Educational Curriculum and Instruction.)

*Contact department before enrolling.

Minor — Humanities 31 credits
Interdisciplinary study of the traditional material of the humanities — i.e., major beliefs about and images of human beings and their place in society and the universe — in western and other cultural traditions.

- Lbrl 121, 122, 123
- One course from Lbrl 232, 235, 242, or 243
- Two courses from Lbrl 271, 272, 273, 274, 275, 276, 277
- One course from Lbrl 302, 332, or 378 and other appropriate courses under advisement

Minor — The Study of Religion

24-27 credits

Scholarly, critical, non-sectarian study of religious traditions and religious behavior; directed toward understanding of the role of religion in human experience and the complex relationship between religion and other cultural forms.

- Lbrl 231
- Three courses from Lbrl 235, 271, 272; Hist 267, 287; Phil 113
- Remaining credits from the following: Anth 330; Eng 336; Lbrl 332, 333, 378; Hist 387; Soc 463; other appropriate courses under advisement

For advisement regarding either minor, contact the Liberal Studies office.

LIBERAL STUDIES COURSES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

121, 122, 123 HUMANITIES (5 ea)

Interdisciplinary introduction to significant cultural themes from art, music, history, philosophy, literature in the western tradition. (These courses need *not* be taken in sequence.)

121 The Western Tradition I: The Ancient World. Concepts of man in Near Eastern and Mediterranean cultures: Mesopotamia, Egypt, Greece, Palestine, Rome.

122 The Western Tradition II: Concepts of Man in Medieval and Modern Europe. Emphasis on emergent "modernity" and associated problems of "world-view," authority vs reason, the individual in the universe.

123 The Western Tradition III: Man in Modern Times. Nineteenth and twentieth century ideologies: their philosophies of man; alienation and integration of the individual in society.

231 INTRODUCTION TO THE STUDY OF RELIGION (4)

Examination of religious phenomena from several scholarly perspectives: mysticism, corporate religion, symbolism and ritual, theories of religion.

232 MYTH AND FOLKLORE (4)

An introduction to the study of myth and folklore and its cultural impact.

235 THE BIBLICAL TRADITION (4)

Examination of selected topics in the development and textual analysis of the Hebrew and Christian scriptures: interdisciplinary perspective; attention to original languages.

242 MUSIC AND THE IDEAS OF WESTERN MAN (4)

The relation of the art of music to mathematics, cosmology, psychology and aesthetics. Not open to music majors.

243 ART AND IDEAS (4)

A study of Western humanities through the visual arts, sculpture, painting and architecture. Exploration of the values expressed through choices of style and subject matter in selected cultural periods.

271 HUMANITIES OF INDIA (4)

The Indian experience and the development of its cultural unity; the challenge of Islam and the British colonial experience; the conditions of modernization and the emerging synthesis of values.

272 MYTHOLOGY/RELIGION AND SOCIETY IN CHINA AND JAPAN (4)

Study of formal religious thought and of popular religion in traditional Chinese and Japanese cultures, the impact of Christian denominations, and the character of contemporary religious life.

273 ARTISTIC EXPRESSION AND SOCIETY IN CHINA AND JAPAN (4)

Studies of the aesthetic traditions of East Asia, courtly and popular, secular and religious; the impact of foreign ideas and the role of art in recent propaganda, architecture and industrial design as well as in traditional modes of expression.

Liberal Studies

274 SOCIETY AND LITERATURE IN CHINA AND JAPAN (4)

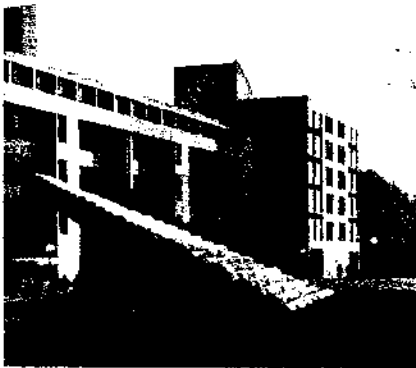
Study of Chinese and Japanese authors from traditional and modern times; emphasis on forms of literary expression as a guide to social attitudes and value systems.

275 HUMANITIES OF JAPAN (4)

Interdisciplinary introduction to Japanese civilization, both traditional and modern, with particular emphasis on religions, historical, artistic, and literary patterns, and societal and cultural ideals.

276 HUMANITIES OF AFRICA (4)

Introduction to the cultural heritage of sub-Saharan Africa, and to the contemporary civilization that draws upon it. Emphasis on the process by which Africans currently build and use coherent accounts of their heritage.



277 HUMANITIES OF CHINA (4)

Interdisciplinary introduction to Chinese civilization, traditional and modern, emphasis on religions, intellectual, artistic and literary patterns, and societal and cultural ideals.

302 METHODS OF INTERDISCIPLINARY STUDY (4)

Prereq: Lbrl 121, 122, 123, average grade of "B" in liberal studies courses and permission of instructor. Exploration of techniques of interdisciplinary investigation through analysis of a major literary text in its cultural and historical context; exercises in the use of the library as a research tool; preparation of a seminar paper.

332 UNIVERSAL RELIGIONS: FOUNDERS AND DISCIPLES (4)

Prereq: junior status. Beliefs and practices of major world religions; traditional images of religious founders; development of religious traditions; historical and phenomenological perspective.

333 RELIGION IN AMERICA (4)

Prereq: junior status. Religious traditions, values and institutions in American culture; focus on character and development of American Protestantism, Roman Catholicism, and Judaism; attention to contemporary issues and events; interdisciplinary perspective.

370 MAJOR NON-WESTERN TRADITIONS: THE TRADITIONAL ORDER (4)

The basic cultural assumptions, value systems and social orders of China, Japan, India and Africa, to the nineteenth century.

371 MAJOR NON-WESTERN TRADITIONS: THEIR MODERN FATE (4)

Modern challenges to the traditional orders of China, Japan, India and Africa and their responses; issues and models in reconciling traditional and modern values, indigenous and foreign forces.

372 INDIVIDUAL AND SOCIETY IN CONTEMPORARY NON-WESTERN LITERATURE (4)

Prereq: junior status. Effects of rapid change on individuals and resulting concern about the place of individuals in society, as expressed in novels, autobiography, poetry, and critical reflections on literature and culture from recent and contemporary Asia and Africa.

373 IDEOLOGY AND EXPERIENCE IN THE CONTEMPORARY NON-WESTERN WORLD: CONSERVATIVES, REFORMERS, REVOLUTIONARIES (4)

Prereq: junior status. Case studies of 20th-century Third World political leaders (e.g., Gandhi, Mao Tse-tung, Nyerere), their writings, actions, and influence upon contemporary non-Western development.

378 RELIGIONS OF INDIA (4)

Prereq: junior status. Examination of India's major religious traditions — Vedic Hindu, Buddhist, Sikh and Islamic — from earliest Vedic times to the present; analysis of systems of belief, philosophy, ritual and social organization; attention to village religion and popular devotionalism.

499 RESEARCH IN HUMANITIES (4)

Prereq: two courses from Lbrl 417a-d, senior status, permission of instructor. Research and writing of a formal paper on a topic developed by the student in consultation with a faculty adviser; adviser will be assigned and topic identified at the beginning of the quarter prior to enrollment in Lbrl 499.

Linguistics

Linguistics describes language from different structural perspectives and is useful to students preparing careers in anthropology, psychology, speech, education and language teaching. It can also be useful to those interested in the nature and implications of language.

Minor — Linguistics

24-25 credits

Basic Courses

- Linguistics 201, 301, 302, 303, 314

Additional work according to department chosen:

- Anthropology — Anth 448 and 5 additional credits selected under departmental advisement
- English — English 370, 471
- Foreign Languages — a minimum of six credits in a foreign language, selected under departmental advisement and SPA 356
- Speech Pathology/Audiology — SPA 356 (for other courses consult the director)

For advisement and/or a minor in linguistics, consult Mr. Vladimir Milicic (Humanities Building 219), director of the interdisciplinary program in linguistics.

COURSES IN LINGUISTICS

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 201 INTRODUCTION TO LINGUISTICS SCIENCE (5)
Survey of linguistic method and theory.
- 204 SOCIOLINGUISTICS (3)
Examines the relationship between society and language, concentrating on the following areas: address forms, variation theory, language use, sociolinguistics and education, multilingualism, language policy and language attitudes.

- 301 PHONOLOGY (5)
Prereq: Ling 201. Theory, methods and problems of phonological analysis and description.
- 302 MORPHOLOGY (3)
Prereq: Ling 201. Theory, methods and problems of morphemic analysis and description.
- 303 SYNTAX (3)
Prereq: Ling 201. Comparative survey of modern theories of grammar with special reference to syntax.
- 314 PHONETICS (5)
Prereq: Ling 201 or any applicable course in one of the following departments: speech pathology, anthropology, foreign languages or English (see instructor for applicability). An introduction to phonetics as a science, its history and contributions. Emphasis is on the function of the mechanism and the production, perception and transcription of speech sounds used in various languages.
- 402 READINGS IN LINGUISTICS (3)
Prereq: permission of instructor. Directed research on topic selected by student; may not be repeated.



Mathematics

The Department of Mathematics offers majors and minors in mathematics, applied mathematics and mathematics education. Combined majors are offered in mathematics and computer science, biology and mathematics, chemistry and mathematics, economics and mathematics, and physics and mathematics. The department also offers a Master of Science degree in which there is an emphasis on applied mathematics.

The majors mentioned above will serve as components of a liberal education, but each one also prepares the recipient for a career in business, industry, government or education. Further information about career opportunities is available in the department office. Persons planning a career in almost any field will find their opportunities for interesting and challenging positions enhanced by the study of mathematics. A person who develops the ability to formulate and solve quantitative problems will be able to attack many of the complex problems of society.

MATHEMATICS

Mathematics has developed from attempts to find simple general laws governing the behavior of the phenomena we observe around us, phenomena as diverse as the motion of the planets, the evolution of biological systems and the movement of traffic.

These attempts have been remarkably successful, although many problems remain to be solved. The concepts involved are profound and exciting; their development and use require imagination and careful deductive reasoning.

The purpose of the mathematics and applied mathematics majors is to acquaint the student with mathematical concepts and to provide the student with the tools needed to apply the concepts in other fields and to

continue to learn and develop new ideas.

A student primarily interested in the application of mathematical ideas in another field should elect the major in applied mathematics or mathematics and computer science; the latter is the better choice for those interested in the computer science aspects of such applications. A student who is interested in some branch of mathematics itself, or who is considering graduate study in mathematics, should choose the mathematics major. A student considering a career as an actuary should consult the department for specific course suggestions. A student who is unsure about future plans should probably choose the mathematics major because of the greater flexibility it offers.

MATHEMATICS EDUCATION

The Bachelor of Arts in Education major may be completed with either of two concentrations; one prepares the graduate for teaching mathematics on the secondary level, the other concentrates on the elementary level. Those who intend to pursue one of these concentrations must complete certain courses in calculus, linear algebra, discrete mathematics, statistics, number theory, geometry, history of mathematics, and computer science. Successful completion of these courses provides a good part of the training necessary for technical expertise in the classroom.

The elementary concentration emphasizes breadth in mathematics. Breadth of experience is important so that the teacher may expose elementary students to a wide variety of mathematical topics. The specialist in mathematics on the elementary level must be particularly skilled at transforming the material mastered

in college to a form suitable for the level in question.

Secondary majors learn the methods of teaching mathematics in Math 483; elementary majors learn such methods in Math 481.

Students who wish to teach mathematics on the secondary level also can gain certification in mathematics by completing any one of the Bachelor of Science majors in mathematics, applied mathematics, or mathematics-computer science. In addition to the requirements for the major, they are expected to complete these courses: Math 302, Math 360, Math 419, and Math 483.

Recommendation for teaching endorsement requires the completion of the major with a minimum grade point average of 2.50 in the courses required for the major. To gain the Initial Teaching Certificate, students must also complete a program of studies in professional education, including student teaching. Students should seek formal admission to the appropriate program in education early in their careers at Western. It is essential that the interested reader consult the Department of Educational Curriculum and Instruction portion of this catalog for further information.

ACADEMIC PLACEMENT

Placement in the first mathematics course at Western will be on the basis of the results of an appropriate placement test except for students who have successfully completed at least one quarter of calculus in college. Mathematics placement tests are administered throughout the state of Washington each year, and both freshmen and transfer students who are residents in Washington are advised to take the appropriate examination prior to arrival on campus. Full information on which test to take and how to take it is available from the Admissions Office or the Mathematics Department.

Students who have completed at least one year of high school calculus or at least one quarter of college calculus should consult a departmental adviser before registering.

Students who have completed one quarter or more of college calculus may not receive credit for any of Math 102, 103, 104, 105, 151, or 155 except by permission of the department chair.

ADVICE TO ENTERING STUDENTS

The B.S. degrees in mathematics, applied mathematics and mathematics/computer science, and the B.A. in Education in mathematics—secondary are based on the following core:

- Math 124, 125, 224, 226 (calculus)
- Math 204, 304 (linear algebra)
- Either Math 302 or Math-CS 207 (discrete mathematics)
- Math 312 (Proofs in Elementary Analysis)
- CS 210 (computer programming)

These courses, except for Math 312, represent the minimum that a student planning one of these majors should complete during the first two years. In addition, any student pursuing a B.S. degree should complete Math 225, the second quarter of multivariable calculus. A well prepared student will be able to build a stronger program, possibly including some graduate-level courses in the senior year, by completing some 300-level work chosen under advisement in addition to the list above. In particular, Math 331 (differential equations) will be suitable for many students.

Transfer students, especially those intending to enter Western with an A.A. degree, should normally complete as much as possible of the core program above, certainly including calculus and linear algebra. Students should be aware that 200-level differential equations courses may not transfer as equivalent to Math 331.

Transfer students must complete at

Mathematics

this institution a minimum of nine upper-division credits for a major in the department or five upper-division credits for a minor in the department.

DECLARATION OF MAJOR

Students who intend to complete a major in the department are urged to declare the major formally at an early point in their Western career so that a program of study can be planned in collaboration with a departmental adviser. This does not in any way decrease the opportunity to change plans, but does ensure an efficient program which is not subject to future catalog revisions.

There are at present admissions requirements for the mathematics/computer science major. The department may, at any time, establish requirements for admission to any or all of its other major programs. Details can be obtained in Bond Hall 202 or by writing to the Mathematics Department chair.

ENROLLMENT PREFERENCE FOR MAJORS

The department will give enrollment preference for certain high demand courses to its majors.

ACADEMIC EXCELLENCE

The Mathematics Department offers two programs for outstanding students. One—graduation with Distinction in Mathematics—rewards exceptional achievement in mathematics. The other—graduation with Honors in Mathematics—is part of the University Honors Program, and includes a substantial general education component as well as most of the requirements for graduation with distinction. A student may apply to participate in either of the programs, or in both.

Graduation with Distinction

A student may graduate with Distinction in Mathematics by doing each of the following:

1. Complete an approved form of one of the following majors, including at least 32 quarter hours of mathematics courses taken at Western:

- B.S. Mathematics
- B.S. Applied Mathematics
- B.S. Mathematics—Computer Science
- B.A. in Ed. Mathematics—Secondary

The cumulative GPA for mathematics classes taken at Western should be at least 3.5. Details of suitable programs are available from the department office, Bond Hall 202.

2. Complete two approved mathematics seminars, including the fall quarter problem-solving seminar, Math 350.

3. Pass a comprehensive examination to be given at the beginning of spring quarter covering Math 124, 125, 224, 225, 226, 204, 304, 331.

A student interested in graduating with distinction should contact the department chair not later than the beginning of the junior year.

Graduation with Honors

For All Students

Complete one of the majors listed above in a form acceptable for Graduation with Distinction.

For Entering Freshmen

Students who enter the program as freshman may graduate with Honors in Mathematics by completing the usual requirements for the Honors Program (see Honors Program section of this catalog) with the following modifications:

1. Satisfy the GUR in science by taking one of the following one-year sequences under advisement. The sequence in physics is recommended for most students

- Physics 121, 122, 123, 125
- Chem 121, 122, 123

2. The student may choose to substitute the comprehensive examination described under Graduation with

Distinction above for the senior program.

For Transfer Students

Complete the usual requirements for graduation through the Honors Program (see Honors Program section of this catalog) except for the possible substitution of the comprehensive examination for the senior project.

A student interested in the Honors Program should contact either the Mathematics Department Chair or the director of the Honors Program.

INFORMATION

Those interested in the study of mathematics are welcome to write, phone, or visit the Chair of the Department of Mathematics, Western Washington University, Bellingham WA 98225. Phone (206) 676-3785.

MATHEMATICS FACULTY

- THOMAS T. READ (1967) Chair. Professor. BA, Oberlin College; MA, PhD, Yale University.
- EDOH Y. AMIRAN (1989) Assistant Professor. BA, University of Chicago; PhD, Massachusetts Institute of Technology.
- DONALD R. CHALICE (1967) Associate Professor. BA, University of Wisconsin; MA, PhD, Northwestern University.
- KEITH CRASWELL (1966) Associate Professor. BS, MS, PhD, University of Washington.
- BRANKO CURGUS (1988) Associate Professor. BS, MS, PhD, University of Sarajevo.
- JAMES E. DUEMME (1966) Associate Professor. BA, MA, PhD, Ohio State University.
- MICHAEL PAUL FILLIMAN (1987) Assistant Professor. BA, San Francisco State University; MS, PhD, University of California, Davis.
- ALBERT J. FRODERBERG (1968) Professor and Vice President for External Affairs. BS, MS, PhD, University of Washington.
- NEIL R. GRAY (1964) Associate Professor. BA, San Francisco State College; MA, PhD, University of Washington.
- NORA HARTSFIELD (1984) Associate Professor. BA, Humboldt State University, MA, PhD, University of California at Santa Cruz.
- FRANCIS H. HILDEBRAND (1968) Associate Professor. BS, Kent State University; MS, University of Illinois; PhD, Michigan State.
- ROBERT I. JEWETT (1970) Professor. BS, California Institute of Technology; MS, PhD, University of Oregon.

- JERRY L. JOHNSON (1984) Professor. BA, Augsburg College; MS, California Institute of Technology; MA, University of California at Los Angeles; PhD, University of Washington.
- RICHARD G. LEVIN (1967) Associate Professor. BS, University of Pennsylvania; PhD, University of California, Davis.
- NORMAN F. LINDQUIST (1967) Associate Professor. BA, Linfield College; PhD, Oregon State University.
- JOHN R. REAY (1963) Professor. BA, Pacific Lutheran University; MS, University of Idaho; PhD, University of Washington.
- YUN-QIU SHEN (1988) Assistant Professor. BS, University of Science and Technology of China; MS, PhD, Michigan State University.
- JOHN M. VEROSKY (1989) Assistant Professor. BS, MS, University of Texas at El Paso; PhD, Tulane University.
- JOHN W. WOLL (1968) Professor. BS, Haverford College; PhD, Princeton University.
- TJALLING J. YPMA (1987) Associate Professor. BS, University of Cape Town; MS, DPhil, Oxford University.

BACHELOR OF ARTS IN EDUCATION

Major — Mathematics —

Elementary 49 credits

- Math 124, 125, 204, 281, 302, 341, 360, 419, 481
- Math-CS 208
- CS 210
- 4 credits in mathematics as advised

It is recommended that the student also take EdAF 452.

Major — Mathematics —

Secondary 70 credits

- Math 124, 125, 204, 224, 226, 302, 304 or 401, 312, 341 or 441, 360, 419, 483
- Math-CS 208, 375
- CS 210
- At least one of the following two-course sequences: Math-CS 335-435, Math-CS 375-475, Math 401-402, Math 331-432, Math 331-430, Math 331-438, Math 304-401, Math 423-424, or Math 441-442

It is recommended that the student also take EdAF 452.

Mathematics

Minor — Mathematics —

Secondary 41 credits

This minor meets the requirements for a Supporting Endorsement in mathematics (4-12) for Washington state certification.

- Math 124, 125, 204, 302, 360, 419, 483
- Math-CS 208
- CS 210
- 4 credits in mathematics as advised

Combined Majors

See the Chemistry Department section of this catalog for Mathematics-Chemistry major. See the Physics/Astronomy Department section of this catalog for the Physics-Mathematics major.

Teaching Endorsement

Recommendation for teaching endorsement requires completion of the appropriate major with a minimum grade point average of 2.50 in courses used in the major.

BACHELOR OF SCIENCE

Major — Mathematics

70 credits plus 16-20 credits in supporting courses

- Math 124, 125, 204, 224, 225, 226, 304, 312
- Math 302 or Math-CS 207
- Not fewer than 31 credits in mathematics or math-computer science, including at least two of the following sequences: Math 331-432, Math 341-342 or Math 441-442, Math-CS 335-435, Math-CS 375-475, Math 401-402, Math 423-424; and to include at least 20 credits from 400-level courses in mathematics or math-computer science except Math 419, 481, or 483

Supporting courses:

- CS 210
- One of the following sequences:
 - Physics 121, 122, 123, 125

- Chem 121, 122, 123
- CS 331, 332, 405
- Econ 206, 207, 306, 475

- Language competency in French, German or Russian is strongly recommended for those students who may go to graduate school

NOTE: Those students who are interested in the actuarial sciences should complete Math 441, 442, 443, Math-CS 335, 435, 436, and Math-CS 375, 475 as part of their major programs.

Major — Applied Mathematics

87-91 credits

- Math 124, 125, 204, 224, 226, 304, 312, 331
- Math-CS 207 or Math 302
- CS 210
- Math-CS 375-475
- Math 341-342 or Math 441-442
- One of the following concentrations:
 - a) Engineering Concentration: Math 225, either Math 430 or 432, Math 438
 - b) Operations Research Concentration: Math-CS 335-435, either Math-CS 436 or CS 439
- One other 400-level course from Math, Math-CS, or CS 405, 439, 480
- One of the following sequences:
 - Physics 121, 122, 123, 125
 - Chem 121, 122, 123
 - CS 331, 332, 405
 - Econ 206, 207, 306, 475

Minor — Mathematics

35 credits

(Not available to computer science majors.)

- Math 124, 125, 224
- Math 204
- CS 110 or 210
- 12 credits of approved electives from Math-CS 207, 208, Math 225, 226 and upper-division courses except Math 481 and 483

Combined Major —

Mathematics-Computer

Science 94 credits

- Math 124, 125, 204, 224, 225, 226, 312, 331, 430 or 432; 341 or 441; 304 or 401
- Math-CS 207, 208 and three courses from Math-CS 335, 375, 435, 475
- CS 210, 310, 331, 332, 405
- 7 additional upper-division credits in mathematics and computer science as advised.

Other Combined Majors

The Department of Mathematics cooperates with other departments in offering combined majors for students wishing to achieve considerable depth in both areas.

Biology-Mathematics, BS: See the Biology Department section of this catalog.

Chemistry-Mathematics, BA in Ed: See the Chemistry Department section of this catalog.

Economics-Mathematics, BA: See the Economics Department section of this catalog.

Physics—Physics-Mathematics concentration, BA in Ed: See the Physics and Astronomy Department section of this catalog.

GRADUATE STUDY

For a concentration leading to the Master of Science degree, see the Graduate School section of this catalog.

COURSES IN MATHEMATICS

Courses numbered X37, X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

(Courses in Mathematics-Computer Science are listed after the listings in Mathematics.)

102 INTERMEDIATE ALGEBRA (5)

Prereq: suitable score on the *Basic Algebra* mathematics placement test. Pattern recognition and generalization, building mathematical models, and problem solving are emphasized. Supporting topics include: polynomials, linear and quadratic equations, inequalities, graphs, rational expressions, radicals and functions. Cannot be counted toward majors or minors in mathematics or computer science.

103 COLLEGE ALGEBRA (5)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or at least C- in Math 102. Short review of exponents, rational expressions and radicals. Equations, inequalities, functions and their graphs, systems of equations and inequalities. Exponential and logarithmic functions and their applications. Emphasis on graphing of polynomial and rational functions. Cannot be counted toward majors or minors in mathematics or computer science.

104 TRIGONOMETRY (3)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or at least C- in Math 103. Angles and angle measurement, trigonometric functions and their graphs, identities, trigonometric equations, inverse trigonometric functions, applications. Cannot be counted toward majors or minors in mathematics or computer science.

105 PRECALCULUS (4)

Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or suitable score on the *Precalculus* mathematics placement test or at least C- in Math 104. Inequalities, functions including exponential, logarithmic and trigonometric functions, conic sections. Emphasis on domain, range, applications and advanced graphing of functions. Cannot be counted toward majors or minors in mathematics or computer science.

124 CALCULUS AND ANALYTIC GEOMETRY (5)

Prereq: suitable score on the *Precalculus* mathematics placement test or at least C- in Math 105. Derivatives, rules for computing derivatives, applications including curve sketching and optimization, anti-derivatives. Students with a full year of high school calculus may be eligible for Math 126.

125 CALCULUS AND ANALYTIC GEOMETRY (5)

Prereq: Math 124. The definite integral, techniques of integration, exponential and logarithmic functions, applications including area and volume, growth and decay, introduction to differential equations.

Mathematics

- 128 ACCELERATED CALCULUS (5)
Prereq: one year of AP level high school calculus and permission. Designed for students who are thoroughly familiar with the computational aspects of single variable calculus. The students study selected topics from Math 124 and 125 from a more conceptual point of view. The student who completes this course will receive five credits of advanced placement (unless previously received.) Not open to students who have taken Math 124 or Math 125. Offered fall quarter only.
- 151 INTRODUCTION TO MATHEMATICS (3)
Prereq: suitable score on the *Basic Algebra* mathematics placement test. Not open to students with credit in Math 103. Introduction to the methods of thought and logic in mathematics. A cultural approach to mathematics which emphasizes practical problems of the type which can be solved with a hand-held calculator. Students interested in studying a single area of mathematics in detail should consider substituting a course from Math 103, 104, 105, 124, 155, 204, 240.
- 155 ALGEBRA WITH APPLICATIONS TO BUSINESS AND ECONOMICS (4)
Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or at least C- in Math 102. Equations and inequalities, graphs and functions, exponential and logarithmic functions, mathematics of finance, systems of linear equations and matrices, systems of linear inequalities.
- 157 CALCULUS WITH APPLICATIONS TO BUSINESS AND ECONOMICS (4)
Prereq: suitable score on the *Precalculus* mathematics placement test or at least C- in Math 155 or Math 105. Limits, rates of change, differentiation, graphing and optimization, integration, business applications, partial differentiation. A CBE major may substitute Math 124 for Math 157.
- 204 ELEMENTARY LINEAR ALGEBRA (4)
Prereq: Math 124. Systems of linear equations; matrices; the vector space \mathbb{R}^n ; linear independence, bases, subspaces and dimension in \mathbb{R}^n ; introduction to determinants and the eigenvalue problem; applications.
- 224 MULTIVARIABLE CALCULUS AND GEOMETRY (5)
Prereq: Math 125 or 128. Polar coordinates, curves and vectors in the plane and in space, partial derivatives, applications including optimization and motion, multiple integrals.
- 225 MULTIVARIABLE CALCULUS AND GEOMETRY (4)
Prereq: Math 204 and 224. Line and surface integrals, gradient fields, Green's and Stokes' Theorem.
- 226 LIMITS AND INFINITE SERIES (4)
Prereq: Math 125 or 128. Limits, continuity, convergence of sequences and infinite series, Taylor series, applications.
- 240 INTRODUCTION TO STATISTICS (3)
Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or Math 102. This course deals with the nature of statistical reasoning, descriptive statistics, ideas of probability and measurement, sampling distributions, the binomial and normal distributions, confidence intervals, and the testing of statistical hypotheses. Cannot be counted toward any major in the Department of Mathematics.
- 281 MATHEMATICS IN GRADES K-8 (4)
Prereq: either of the following: (1) suitable score on the *Intermediate Algebra* mathematics placement test; or (2) grade of C- or better in Math 102. Concepts in arithmetic, informal geometry and measurement development from a problem-solving perspective. Not acceptable for any departmental major except B.A. in Ed., Elementary, and does not satisfy GUR mathematics requirement except for those who complete the B.A. in Ed., Elementary
- 302 INTRODUCTION TO PROOFS VIA NUMBER THEORY (4)
Prereq: Math 125 or 128. The properties of integers, prime numbers, Euclidean algorithm, congruences. The student is expected to develop competence in proving basic results in number theory. A student cannot receive credit for both Math 302 and Math 305.
- 304 LINEAR ALGEBRA (4)
Prereq: Math 204. Orthogonality and orthogonal bases; linear transformations and the least squares problem; further study of eigenvalues and eigenvectors and their applications; abstract vector spaces and linear transformations.
- 305 NUMBER THEORY (4)
Prereq: Math 125 or 128 or 204. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues. A student cannot receive credit for both Math 302 and Math 305.

- 312 PROOFS IN ELEMENTARY ANALYSIS (4)
Prereq: Math 226 and either Math 302 or Math-CS 207. Open and closed sets in the line and plane, sequences, least upper bound axiom, continuous functions and their properties. The student is expected to develop competence in proving basic theorems involving these concepts.
- 321 MATHEMATICS FOR TECHNOLOGY (4)
Prereq: Math 125. A survey of topics from differential equations, Laplace transforms, matrix theory, statistics, designed especially for students majoring in engineering technology. Cannot be counted toward any major or minor in the Department of Mathematics. Open only to technology students except by permission.
- 331 ORDINARY DIFFERENTIAL EQUATIONS (4)
Prereq: Math 224. An introductory course including first order equations, second order and higher linear equations, Laplace transforms, applications to physical and other systems.
- 341, 342 STATISTICAL METHODS (4 ea)
Prereq: Math 125 or 128; 341 prerequisite to 342. Statistical methods, including use of computer packages. Emphasis is on the use and validity of tests. Inference and hypothesis testing, ANOVA, regression and correlation, contingency, non-parametric tests. Applications from economics, business, the sciences, education and psychology.
- 350 PROBLEM SOLVING SEMINAR (3)
Prereq: Math 224 or permission. Techniques of problem solving in mathematics with particular emphasis on selected topics in discrete mathematics, calculus and elementary real analysis.
- 360 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (4)
Prereq: Math 125 or 128, 204 and either Math 302 or Math-CS 207. Metric development of Euclidean geometry and consideration of non-Euclidean geometrics.
- 401, 402 INTRODUCTION TO ABSTRACT ALGEBRA (4 ea)
Prereq: Math 204 and either Math 302 or Math-CS 207, Math 401 prerequisite to 402. Groups, rings, fields, field extensions, Galois Theory.
- 410 MATHEMATICAL MODELING (4)
Prereq: Math 432. Project required; discrete continuous and positive systems, stability analysis, bifurcations, applications.
- 412 MATHEMATICAL MODELING COMPETITION (1)
Prereq: permission of instructor. Preparation for participation in the national mathematics modeling competition. Repeatable
- 419 HISTORICAL PERSPECTIVES OF MATHEMATICS (3)
Prereq: 12 credits of upper-division mathematics and passing grade on junior writing examination. History and development of mathematical thought from ancient to modern times. Philosophical, sociological and biographical perspectives. Writing proficiency course.
- 420 TOPICS IN THE HISTORY AND PHILOSOPHY OF MATHEMATICS (3)
Prereq: Math 312; passing grade on junior writing examination. Concentrated study of a topic or a closely connected group of topics associated with the history and philosophy of mathematics. Students will be required to write a substantial expository paper. Writing proficiency course.
- 423 ADVANCED CALCULUS (4)
Prereq: Math 312. Convergence, limits and continuity in Euclidean space, uniform convergence, theory of derivative and of the Riemann integral.
- 424, 425 PARTIAL DIFFERENTIAL EQUATIONS (4 ea)
Prereq: Math 331, 423; Math 424 prerequisite to 425. The basic theory of partial differential equations, including classification, characteristics, well posed problems, orthogonal functions, Sturm-Liouville theory, the Fourier transform, heat flow, and wave motion.
- 430 FOURIER SERIES AND PARTIAL DIFFERENTIAL EQUATIONS (4)
Prereq: Math 226, 304, and 331. An introduction to the Fourier method for solving boundary value problems arising in physics and engineering. Fourier series, the wave equations, the heat equation, the Fourier transform, and related topics.
- 432 SYSTEMS OF DIFFERENTIAL EQUATIONS (4)
Prereq: Math 204 and 331; 304 recommended. First order linear systems, stability theory of nonlinear systems, phase portraits, applications.
- 438 INTRODUCTION TO COMPLEX VARIABLES (4)
Prereq: Math 225, 226. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculations of residues.

Mathematics

- 441, 442, 443 MATHEMATICAL STATISTICS (4 ea)
Prereq: Math 224 and 304; each course prerequisite to the next. Probability theory; development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.
- 481 METHODS OF TEACHING MATHEMATICS IN GRADES K-8 (4)
Prereq: Math 281 with grade of C- or better. Survey of instructional modes and teaching strategies. Topics included are sequencing, evaluation, remediation, problem solving and attitudes.
- 483 METHODS OF TEACHING SECONDARY MATHEMATICS (4)
Prereq: at least two upper-division mathematics courses. Topics discussed include pre-algebra, algebra, geometry, problem solving and resource materials.
- 515 DIFFERENTIAL GEOMETRY (4)
Prereq: Math 423. Geometry of curves and surfaces in \mathbb{R}^3 .
- 518 TOPOLOGY (3)
Prereq: Math 423. Topological spaces, metric spaces, connectedness, compactness, product and quotient spaces, function spaces.
- 520 REAL ANALYSIS (4)
Prereq: Math 423. Lebesgue outer measure and measure, Lebesgue integral of measurable functions of a real variable. Convergence theorems. $L_p(0,1)$. Holder and Minkowski inequalities. Riesz-Fisher Theorem. Abstract outer measure, measure and integration on a sigma-algebra of sets, product measures. Fubini's Theorem.
- 521 HILBERT SPACE THEORY AND APPLICATIONS (3)
Prereq: Math 520, Math 430 or equivalent. Bounded operators, continuous linear functionals, the Riesz theorem, projections, self-adjoint operators, unitary operators, completely continuous self-adjoint operators and the r eigenfunction expansions, integral operators, applications to differential equations, a brief discussion of quantum mechanics, other applications to physical problems.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 502 ABSTRACT ALGEBRA (4)
Prereq: Math 401. Rings, fields, field extensions, Galois Theory.
- 503 TOPICS IN ABSTRACT ALGEBRA (3)
Prereq: Math 401, 502 or equivalent. Special topics in algebra based on the theory of groups and the application of group theory to other fields.
- 504 ABSTRACT LINEAR ALGEBRA (4)
Prereq: Math 304 and a 400-level course requiring student proofs of theorems. Abstract vector spaces, linear transformations, spectral theory.
- 505 APPLIED LINEAR ALGEBRA (3)
Prereq: Math 304. Linear modeling of mathematical phenomena, including phenomena from the sciences, and the application of matrix theory.
- 508 COMBINATORICS (3)
Prereq: graduate status in mathematics. Counting techniques, generating functions, coding, coloring, relationships to probability theory.
- 510 MATHEMATICAL MODELING (4)
Prereq: Math 432. Major project required. Discrete, continuous and positive systems, stability analysis, bifurcations, applications.
- 522 FOURIER-LAPLACE TRANSFORM AND APPLICATIONS (3)
Prereq: Math 438, 520. Algebraic properties (including behavior of derivatives and convolution products), the inverse transform, generalized functions (and why they are necessary), solution of partial differential equations, Abel's mechanical problem and other specific scientific applications.
- 523 METHODS OF MATHEMATICAL ANALYSIS (4)
Prereq: an introductory real analysis course. Introduction to metric spaces. Applications to infinite series, uniform convergence and other properties of continuous functions. Theory of differentiation and of the Riemann integral.
- 524 PARTIAL DIFFERENTIAL EQUATIONS (4)
Prereq: Math 331 and 423. Topics in the theory of partial differential equations.
- 528 ADVANCED CALCULUS OF SEVERAL VARIABLES (4)
Prereq: Math 225, 304, 423. Parameterization of curves, surfaces and higher dimensional objects in Euclidean space. Integration in higher dimensions.

- 533 **ADVANCED ORDINARY DIFFERENTIAL EQUATIONS (3)**
 Prereq: Math 432, 523 concurrent. Existence and uniqueness of solutions, stability theory of non-linear equations, bifurcation.
- 535 **OPERATIONS RESEARCH (4)**
 Prereq: Math 224, 304, Math-CS 335. Non-linear programming with emphasis on basic theory (including Lagrange multipliers and the Kuhn-Tucker conditions), algorithms for numerical solution of problems, and applications. Introductory dynamic programming, with emphasis on applications and algorithms.
- 538 **COMPLEX VARIABLES (4)**
 Prereq: Math 224, 423. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculation of residues.
- 539 **COMPLEX ANALYSIS (3)**
 Prereq: Math 523, 538. A rigorous development of analytic functions of a complex variable: Cauchy's Theorem, Taylor and Laurent expansions, conformal mappings and other topics.
- 541 **PROBABILITY (4)**
 Prereq: Math 224, 304. Probability theory, both discrete and continuous. The Central Limit Theorem.
- 542, 543 **MATHEMATICAL STATISTICS (4 ea)**
 Prereq: Math 304, 441. Math 542 prerequisite to 543. Distributions, generating functions, averages, moments, regression, correlation, variance, statistical inference.
- 546 **STOCHASTIC PROCESSES (3)**
 Prereq: Math 304, 441. Topics from Markov and sequential decision processes, renewal theory, inventory theory, stochastic control, etc.
- 547 **QUEUEING THEORY (3)**
 Prereq: Math 441 or Math-CS 436. Analysis of random arrival and service processes to determine expected waiting time, number in waiting line, etc. Bulk arrivals, networks, balking, pre-emptive queues and various applications.
- 560 **TOPICS IN GEOMETRY (3)**
 Prereq: graduate status in mathematics. A study of one or more topics in geometry such as convex sets, polytopes, tilings, integral geometry or combinatorial geometry.
- 564 **GRAPH THEORY (3)**
 Prereq: graduate status in mathematics. Basic properties of graphs, planar graphs, duality theory, intersection graphs, interval graphs, trees, path problems (Eulerian and Hamiltonian circuits), line graphs, max-flow-min-cut theorem, and specific applications to such areas as game theory, electrical networks, error-correcting codes and coloring problems.
- 570 **OPTIMIZATION (4)**
 Prereq: Math 304 and 423. Topics taken from nonlinear programming, calculus of variations or the theory of optimal control.
- 573 **NUMERICAL LINEAR ALGEBRA (4)**
 Prereq: Math 304, ability to program. Norms; fundamental matrix types, transformations and factorizations; linear equations, linear least squares; rounding error, conditions and stability; the algebraic eigenvalue problem (QR method).
- 574 **NUMERICAL SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS (4)**
 Prereq: Math 304, ability to program. Finite difference and finite element methods; stability and convergence; methods for large sparse systems of equations.
- 575 **NUMERICAL ANALYSIS (4)**
 Prereq: Math 224, Math-CS 375. Polynomial interpolation including splines, orthogonal systems of functions and least squares approximation; numerical differentiation and integration; solution of systems of nonlinear equations and unconstrained optimization.
- 576 **NUMERICAL SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS (4)**
 Prereq: Math 331, 575. The initial value problem: Runge-Kutta methods, linear multistep methods; implicit methods, stability and stiff problems; systems and higher order equations. Boundary value problems: shooting method; finite differences; collocation.
- 595 **TEACHING INTERMEDIATE ALGEBRA (1)**
 Prereq: appointment as TA teaching Math 102. S/U grading.
- 599 **MATHEMATICS SEMINAR (1-3)**
- 690 **THESIS (variable credit)**
- 691 **PROJECT (1 or 2)**
 Prereq: advancement to candidacy, choice of project degree option. Repeatable to 2 credits.

COURSES IN MATHEMATICS- COMPUTER SCIENCE

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

The courses listed below require background in both mathematics and computer science. The problems attacked in these courses cannot be solved without fruitful wedding of knowledge from both areas. In many of the upper-level computer science and math-computer science courses, majors have priority for admission.



- 207 DISCRETE MATHEMATICS I (4)
Prereq: Math 124 or 128. Logic, set theory, induction, functions and relations, equivalence relations, partially ordered sets and finite Boolean algebras.
- 208 DISCRETE MATHEMATICS II (4)
Prereq: Math-CS 237 or Math 302. Combinatorics, discrete probability, graph theory, algebraic systems, recurrences, Kar-nough maps.
- 335 LINEAR PROGRAMMING (4)
Prereq: Math 204 and CS 210. Linear programming, duality theory, sensitivity analysis, applications.
- 375 NUMERICAL COMPUTATION (4)
Prereq: Math 204, CS 210. Fortran and numerical software libraries, computer arithmetic, solution of a nonlinear equation and optimization in a single variable; matrix factorization; matrix iterative techniques.
- 435 OPERATIONS RESEARCH I (4)
Prereq: Math 224, 304, and Math-CS 335. Non-linear programming with emphasis on basic theory (including Lagrange multipliers and the Kuhn-Tucker conditions), algorithms for numerical solution of problems, and applications. Introductory dynamic programming, with emphasis on applications and algorithms.
- 436 OPERATIONS RESEARCH II (4)
Prereq: Math-CS 435 and some knowledge of probability theory (for example, Math 341 or Math 441). Linear, non-linear and dynamic programming problems in which statistical considerations form an essential part of the problem.
- 475 NUMERICAL ANALYSIS (4)
Prereq: Math 224, Math-CS 375. Polynomial interpolation including splines, orthogonal systems of function and least squares approximation; numerical differentiation and integration; solution of systems of nonlinear equations and unconstrained optimization.
- 476 NUMERICAL SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS (4)
Prereq: Math 331, Math-CS 475. The initial value problem; Runge-Kutta methods, linear multistep methods; stability and stiff problems; systems and higher order equations. Boundary value problems; shooting method; finite differences; collocation.

Nursing

RN-BSN PROGRAM

Admission to Western's RN-BSN program has been suspended indefinitely, pending a decision regarding its continuation or termination.



Philosophy

Philosophy is among the oldest of intellectual disciplines. Many areas of study now distinct from philosophy—for example, the various sciences—may be regarded as offspring of philosophy which have come of age. Nevertheless, the central philosophical questions remain as vital as ever.

Historically, philosophy has been regarded by many as the most basic of intellectual disciplines; it is the firm conviction of the faculty of the Department of Philosophy that it is among the most relevant. Among the questions dealt with in one philosophy course or another are "What is knowledge?" "What is truth?" "Can we gain knowledge?" "Can we know the truth?" "Are there such things as right and wrong?" "Does God exist?" "What is the nature of the distinction between minds and bodies?" "Are persons machines?" and the like. The department believes that consideration of these and related questions is fundamental to being educated and as such should be of interest to all students; moreover, the department believes that many students are sufficiently able and mature intellectually to pursue answers to these questions at an advanced level with profit, and the faculty invite them to join in this pursuit.

The Department of Philosophy offers a wide range of courses in most of the traditional areas of philosophical concern: history of philosophy, ethics, philosophy of religion, metaphysics, to name only a few. A number of courses satisfy General University Requirements. Beyond this, the department offers a major and a minor program in philosophy. The major program is intentionally one of the smallest in the University to allow students maximum opportunity to explore other areas of interest.

Work in philosophy fits well into many pre-professional programs. It is highly desirable as preparation for law school; indeed, some law schools have historically listed it as the preferred undergraduate major. Emphasizing, as it does careful, deep, critical analysis of concepts and problems, philosophy is an excellent major for students who will seek positions in business and government which require a liberal arts background.

Recent studies show that students who major in philosophy are among the very highest groups in performance on the Graduate Record and other such qualifying examinations.

PHILOSOPHY FACULTY

- PHILLIP MONTAGUE (1966) Chair.
Professor. BS. Loyola University; PhD, Stanford University
- THOMAS E. DOWNING (1968) Associate Professor. AB. Wayne State University; PhD. Stanford University
- HUGH FLEETWOOD (1962) Associate Professor. BA, MA, PhD. The University of Michigan.
- MARK HINCHLIFF (1987) Assistant Professor. BA. Reed College; PhD. Princeton University.
- RICHARD L. PURTILL (1962) Professor. BA, MA, PhD. University of Chicago.

In addition to regular faculty, the Department of Philosophy often includes one or two temporary faculty. The department also seeks to have a distinguished visiting philosopher for at least one quarter each year.

BACHELOR OF ARTS

Major — Philosophy 59 credits

- Phil 102, 112, 201, 202, 310, 320, 330, 364, 366, 367, 410, 420, 430
- One course from Phil 365, 368, 369
- Two courses from Phil 303, 417, 425
- Electives under departmental advisement

Minor — Philosophy 25 credits

- Phil 102, 112, 201
- One course from Phil 364, 365, 366, 367, 368 369
- Two courses from Phil 310, 320, 330
- Electives under departmental advisement

COURSES IN PHILOSOPHY

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

102 INTRODUCTION TO LOGIC (3)
 The development of a formal system of propositional and predicate logic for the evaluation of reasoning.

107 LOGICAL THINKING (3)
 An aid to speaking and writing so as to reflect clear, critical and responsive thinking, covering definition, classification, fallacies and techniques of good argument.

The following three courses are all introductory philosophy courses. They are not sequential and none of them presupposes any of the others.

112 INTRODUCTION TO PHILOSOPHY: MORAL ISSUES (3)
 Introduction to philosophical thinking about moral problems. Seeks to understand central moral concepts such as good, right, duty, etc., in the context of contemporary issues

113 PHILOSOPHY OF RELIGION: UNDERSTANDING RELIGION (3)
 Special attention is given to questions about the nature and existence of God. Also examined are such topics as the problem of evil, concepts of faith, religious experience, miracles, etc.

201 INTRODUCTION TO PHILOSOPHY: KNOWLEDGE AND REALITY (3)
 Emphasis is given to the nature and possibility of knowledge, to related concepts such as truth, belief and evidence, and to selected metaphysical problems.

202 INTERMEDIATE LOGIC (4)
 Prereq: Phil 102. The development of a formal system of logic with multiple quantifiers, identity and definite descriptions; and an examination of either nonclassical systems of logic or the fundamental results defining the scope and limits of formal systems of logic.

207 PHILOSOPHY AND FANTASY (3)
 Examination of some philosophical themes in the imaginative writings of C. S. Lewis, J.R.R. Tolkien and others.

303 PHILOSOPHY OF LANGUAGE (3)
 Prereq: Phil 102. An examination of the nature of language through the study of such topics as truth, reference, meaning, use, convention, language's differences from other forms of communication and representation, and language's relations to thought and reality. The relevance of theories on these topics to selected philosophical issues also will be discussed. Normally offered in odd-numbered academic years.

310 THEORY OF KNOWLEDGE I (3)
 Prereq: Phil 102, 201. The attempt to understand the possibility, nature, origins and limits of knowledge; problems and concepts. Normally offered in even-numbered academic years.

315 INTRODUCTION TO EXISTENTIALISM (3)
 Prereq: one course in philosophy or upper-division status. Major philosophers of the existential school, philosophical problems and answers as seen by existentialism. Special attention is given to Kierkegaard, Nietzsche and Sartre.

320 ETHICAL THEORY I (3)
 Prereq: Phil 112 or instructor's permission. An examination of traditional and contemporary views concerning the overall nature of morality (views such as cognitivism and realism), and also of specific moral theories (such as utilitarianism and contractualism). Other topics include moral rights, moral responsibility and the moral virtues. Normally offered in odd-numbered academic years.

330 METAPHYSICS I (3)
 Prereq: Phil 102, 201. A systematic study of the fundamental categories of reality, such as existence, substance, property, identity, space, time, change, event, causality, necessity, essence, free will and mind. The philosophical issues in which these categories play a part also will be discussed. Normally offered in even-numbered academic years.

340 PHILOSOPHY OF SCIENCE (3)
 Prereq: upper-division status or instructor's permission. A examination of the basic methods and concepts of the sciences through the study of such topics as explanation, confirmation, causality, probability, laws of nature, theories, revolution, reduction and realism.

Philosophy

350 POLITICAL PHILOSOPHY (3)

Prereq: one course in philosophy or upper-division status. The nature of the state, and of the institutions and practices of which it is comprised; the basis and scope of political obligation, the proper role of political activity; considerations of concepts of sovereignty, legitimacy, limits of state power, representation, and the like.

360 SOCIETY, LAW AND MORALITY (3)

Prereq: one course in philosophy or upper-division status. Concepts and principles involved in analysis and appraisal of social institutions with attention to freedom, rights, justice, and the relation between laws and morality.

364 HISTORY OF PHILOSOPHY: ANCIENT PHILOSOPHY (4)

Prereq: one course in philosophy. Great philosophical thinkers from the pre-Socratic philosophers to the Hellenistic period; special attention to Plato and Aristotle. Normally offered in even-numbered academic years.

365 HISTORY OF PHILOSOPHY: MIDDLE AGES TO RENAISSANCE (4)

Prereq: one course in philosophy. Great philosophical thinkers from the 12th to the 17th centuries, including St Thomas Aquinas, St Bonaventure, Duns Scotus, William of Occam, Roger and Francis Bacon. Normally offered in even-numbered academic years.

366 HISTORY OF PHILOSOPHY: THE RATIONALISTS (4)

Prereq: one course in philosophy. Great philosophical thinkers in the rationalist tradition, their problems and their methods: Descartes, Spinoza, Leibniz, et al. Normally offered in even-numbered academic years.

367 HISTORY OF PHILOSOPHY: THE EMPIRICISTS (4)

Prereq: one course in philosophy. Great philosophical thinkers in the empiricist tradition, their problems and their methods: Hobbes, Locke, Berkeley, Hume, et al. Normally offered in odd-numbered academic years.

368 HISTORY OF PHILOSOPHY: KANT AND POST-KANTIAN PHILOSOPHY (4)

Prereq: one course in philosophy. Kant and post-Kantian philosophy with some attention to other significant movements such as utilitarianism, early existentialism and pragmatism. Normally offered in odd-numbered academic years.



369 CONTEMPORARY PHILOSOPHY: THE ANALYTIC TRADITION (4)

Prereq: one course in philosophy. Critical examination of central concerns and methods of the 20th century analytic movement; treats such persons as Russell, Moore, Wittgenstein. Normally offered in odd-numbered years.

410 THEORY OF KNOWLEDGE II (3)

Prereq: Phil 310. An intensive examination of selected topics and methods in epistemology. Normally offered in even-numbered academic years.

417 SEMINAR IN PHILOSOPHY (3)

Prereq: Three upper-division philosophy courses. Examination of a special topic, a particular philosophical issue or the writings of a specific philosopher.

420 ETHICAL THEORY II (3)

Prereq: Phil 320. An intensive examination of selected topics and methods in ethical theory. Normally offered in odd-numbered academic years.

425 PHILOSOPHY OF MIND (3)

Prereq: Phil 102 and one 300-level course or instructor's permission. A study of the mind through the examination of such topics as the mind-body problem, intentionality, consciousness, 'qualia,' introspection and knowledge of other minds. Philosophical theories on these topics—such as dualism, behaviorism, type physicalism, functionalism and eliminativism also will be examined. Normally offered in odd-numbered academic years.

430 METAPHYSICS II (3)

Prereq: Phil 330. An intensive examination of selected topics and methods in metaphysics. Normally offered in even-numbered academic years.

NOTE: Whether an academic year is odd- or even-numbered is determined by whether fall quarter is in an odd- or even-numbered calendar year.

Physical Education, Health and Recreation

The department offers degree programs for students interested in professions related to exercise and sport science, physical education, health fitness, health education and recreation.

FACULTY

The department currently consists of 11 faculty members whose backgrounds span the entire range of physical education, health and recreation. Students are provided opportunities to interact individually with faculty who are involved in community projects and research in public schools, the exercise sciences, health and recreation.

FACILITIES

The department is housed in Carver Gymnasium. Exercise physiology and biomechanics laboratories afford students an opportunity for in-depth study in the exercise sciences and health assessment as applied to health and sports medicine. Considerable practical experience using state-of-the-art laboratory and computerized equipment enables the student to develop skills in cardiorespiratory, anthropometrical, strength, movement analysis and health appraisals.

MAJOR PROGRAMS

Physical Education

The major programs are varied and include undergraduate and graduate student preparation for careers as professional physical educators, exercise science specialists, health fitness instructors in agencies, schools, industry, hospitals and health care facilities. The concentrations offered include the following:

- Teacher Education K-12 Physical Education Certification

- Fitness and Exercise Science
 - Exercise Science
 - Pre-Physical Therapy
 - Athletic Training
 - Sport Psychology

Health Education

Health education is a multidisciplinary practice concerned with designing, implementing and evaluating education programs that enable individuals, families, groups and communities to achieve, protect and sustain health. The curriculum in health education offers a generalist preparation for entry-level career opportunities in health education and health promotion. The concentrations include:

- School Health Education
- Community Health Education
 - community-based
 - worksite-based

Recreation

The curriculum in recreation offers a generalist preparation for a wide range of career entry-level positions including:

- Community Recreation
- Therapeutic Recreation
- Outdoor Recreation
- Industrial Recreation
- Tourism
- Military Recreation

Other Activities

In addition to major/minor programs, a broad selection of activities is offered for students interested in developing lifetime sports skills or the promotion of personal fitness and health. In addition to individual and team sports classes, courses are offered in outdoor pursuits including skiing, sailing, horsemanship, hiking and alpine travel.

PHYSICAL EDUCATION, HEALTH AND RECREATION

- RONALD D. RIGGINS (1977) Chair.
Professor. BA, Laverne College; MS
Recreation, ReD, Indiana University.
- EVELYN E. AMES (1964) Professor. BS, University of Nevada; MS, Washington State University; PhD, University of Maryland.
- LORRAINE BRILLA (1985) Associate Professor. BS, Pennsylvania State University; MS, Pennsylvania State University; PhD, University of Oregon.
- ROY CLUMPNER (1975) Professor. BS, University of Wisconsin, Lacrosse; MA, California State University, San Jose; PhD, University of Alberta.
- KATHLEEN KNUTZEN (1977) Associate Professor. BA, MA, Western Washington State College; PhD, University of Oregon.
- BOYDE LONG (1966) Associate Professor. BS, MA, University of New Mexico.
- MARYBETH P. MILLER (1990) Assistant Professor. BS, Western Michigan University; MEd, PhD, University of Pittsburgh.
- JAMES E. MOORE (1977) Associate Professor. BA, University of Oregon; MA, Antioch University; MEd, PhD, Oregon State University.
- CHARLES D SYLVESTER, (1984) Associate Professor. BS, MA, University of Maryland; PhD, University of Oregon.
- RALPH A. VERNACCHIA (1973) Associate Professor. BA, Montclair State College; MS, Ohio University; PhD, The University of Utah.

Adjunct Faculty

- LINDA L. BERGEN (1987) Head Athletic Trainer. BA, ATC, California State University, Long Beach.
- ROBERT COLLINS (1989) Director, Experienced Health Educator Fellowship, Comprehensive Health Education Foundation. BA, Whitman College; MS, EdD, University of Oregon.
- LYNDA GOODRICH (1973) Athletic Director. BA in Ed. MA, Western Washington State College
- KELVEN HALSELL (1987) Head Coach, Track and Cross-Country. BS, MEd, Wayland Baptist University
- JILL HECKATHORN (1980) Lecturer, Recreation; Recreation Supervisor, Bellingham Parks and Recreation. BS, MA, Michigan State University.
- BRAD JACKSON (1985) Head Coach, Men's Basketball. BA, Washington State University; MA, Seattle Pacific University.
- LYNNE SHERWOOD PARKER (1986) Lecturer, Health Education; Project Trainer, Comprehensive School Health Education grant. BS, BA, Central Washington University.
- ROBERT SMITH (1987) Associate Athletic Director; Head Coach, Football. BA, University of Washington.

- LUCILLE TRUCANO (1982) Curriculum Consultant. BS, University of Washington; MS, University of California, Los Angeles.
- LOWELL "BUD" TURNER (1974) BA, MEd, Seattle University.
- JULIA C. WAN (1990) Assistant Superintendent—Instruction, Bainbridge Island School District. BA, MA, Wellesley College, EdD, Boston College.

PHYSICAL EDUCATION

BACHELOR OF ARTS

Major — Physical Education/ Exercise and Sport Science

89-109 credits

This major provides a concentrated study of human movement from mechanical, physiological and pathological perspectives. The program is appropriate for students who plan to work in the fitness/exercise industry or for students who are pursuing a career in athletic training. Additionally, this degree can serve as a preparatory course of study for graduate study or post-baccalaureate study in the areas of exercise physiology, adult fitness, biomechanics, physical therapy and sports psychology. Supporting courses from chemistry, physics, computer science and nutrition are included to provide more in-depth analysis of principles associated with human structure and function.

There are no prerequisites for entry into the program; however, students must complete PE 203, Biol 348 and H Ed 252 within their first two quarters in the program. Each student is assigned an adviser; students must schedule an appointment to meet with the adviser and receive written approval before beginning the physical education sequence.

- General Courses: 10 credits
— PE 203, Biol 348, H Ed 252
- Developmental Skills/Fitness Leadership: 9 credits
— PE 102, 103, 113, 208, 256
— Select 2 credits from PE 120, 122, 136, 139, 154, 167, 168
- Exercise Science Foundations: 23 credits

- PE 301, 302, 303, 307, 485, 490
- Socio-Cultural: 10 credits
 - PE 309 or 310; 407
 - Select 3 credits from PE 308, 309, 310, 409
- Field Experience: 6 credits
 - PE 491

Specializations (select one)

A. Fitness and Exercise Science 35 credits

The exercise science specialization is recommended for students who wish to pursue career opportunities in the fitness environment, or who have plans for post-baccalaureate study in the exercise science area. This specialization is appropriate preparation for (a) employment in a health club, adult fitness setting or workplace fitness setting; (b) graduate study in exercise physiology/adult fitness; or (c) graduate study in biomechanics. Students are required to obtain faculty authorization for the approved set of courses leading to emphasis in one of the three aforementioned areas.

- Select from the following: Biol 349, Chem 115, 121, 122, 123, 251, 371, Comp Sci 110, 210, H Ed 435, Envr 352, 454, Math 240, PE 403, 440, Physics 114, 115, 116

B. Pre-Physical Therapy 53 credits under advisement

The pre-physical therapy option is available for students who wish to pursue post-baccalaureate study in a physical therapy certification program. In order to satisfy the admission requirement for most physical therapy professional programs, students should select 53 credits under advisement from the following:

- Biol 121, 122, 123, 340, 345, 349, 370, Chem 121, 122, 123, 251, Physics 114, 115, 116, Psych 201, 314, 316, Math 240, CS 101, 110

C. Athletic Training 41 credits

The athletic training specialization is available for students who are pursu-

ing certification in athletic training. This option may only be completed under the direct supervision of the athletic training adviser and the athletic trainer employed by the University. Written permission must be obtained from both parties before students may pursue this specialization. In order to be eligible for certification by the National Athletic Trainers Association, students must complete 1,500 hours of athletic training internship under the direction of a certified athletic trainer. Students must be committed to the completion of these hours before specialization approval will be given.

This specialization must be pre-approved by the athletic training adviser and the athletic trainer of Western Washington University.

- Biol 349, PE 304, 403, 409, 440, 491, H Ed 345, Psych 201, Envr 352

D. Sport Psychology 30 credits

The sport psychology option is available for students who have a clinical or practical use for the application of psychology to athletic and exercise settings. This option provides an emphasis in psychology which will serve as an adequate set of prerequisites for post-baccalaureate study in sport psychology. PE 307, 309 and 310 are required and must be taken as part of the core requirements in the major.

- PE 408, Psych 201, 311 or 315. Select 17 credits from the following: Psych 306, 311, 313, 315, 316, 321, 322, 324, 342, 353

Minor — Sport Psychology

30-32 credits

This interdisciplinary program is designed to introduce the student to the discipline of sport psychology. More specifically, it emphasizes the educational and behavioral approaches to sport psychology and introduces students to psychometric and clinical techniques which are an integral part of this discipline.

Physical Education

- Psych 201, 311 or 315; PE 307, 309, 310
- PE 408 (to be taken after all courses in the minor are completed)
- Two courses under advisement from Psych 306, 311, 313, 315, 316, 321, 322, 324, 342, 353

Physical education majors cannot use PE 307, 309 or 310 for both major and minor requirements, and must select replacement courses from psychology electives.

BACHELOR OF ARTS IN EDUCATION

Major — Teacher Education K-12 — Physical Education

68 credits

This major provides a concentrated study of instructional techniques, pedagogy, exercise and sport science, and socio-cultural aspects of physical education and sport. Completion of the requirements leads to teacher certification in K-12 physical education.

Prerequisites for entry into the major:

(1) student must be accepted into the College of Education with a minimum 2.75 grade point average; (2) student must meet with program coordinator to be assigned an adviser. Students must complete PE 203 and Biol 348 within their first two quarters in the program.

- Introduction to Physical Education: 3 credits
— PE 203
- Instructional Techniques: 16 credits
— PE 208, 220, 232, 243, 245, 250, 251, 256
- Pedagogy: Analysis of Teaching; Practicum: 16 credits
— PE 320, 350, 392 (2 credits), 401, 492, 496
- Exercise and Sport Science: 23 credits
— PE 301, 302, 303, 307, 485, 490
- Socio-Cultural: 10 credits
— PE 308 or 310; 309, 407

K-12 Physical Education Supporting Teaching Endorsement

38 credits

This course of study is a supporting endorsement in physical education grades K-12. This endorsement can be taken only if the student has a primary endorsement—an academic major which is certifiable by the State Superintendent of Public Instruction.

- Introductory courses: 10 credits
— Biol 348, H Ed 252, PE 203
- Instructional techniques: select two courses from:
— PE 220, 245, 250, 251, 256
- Exercise and Sport Science: 13 credits
— PE 302, 303; 309 or 310
- Pedagogy: 11 credits
— *PE 306 (or PE 350 plus 220 and 250), 401, 496

*Those students who want to emphasize elementary school teaching should select PE 350, and take 220 and 250 as the courses required from the 200 level. Those emphasizing secondary should select PE 306.

Major — Physical Education- Elementary Education

45 credits

This major is to accompany the elementary education professional program. Students complete an internship in an elementary classroom and are certified for teaching grades K-8.

- Biol 348
- H Ed 252
- PE 203, 220, 250, 251, 350, 301, 302, 303, 307, 309 or 310, 407, 485

HEALTH EDUCATION

A health educator is a practitioner who is professionally prepared in the field of health education, who demonstrates competence in both theory and practice, and who accepts responsibility to advance the aims of the health education profession. The practice of health education takes place in community, school, worksite and medical-care settings.

Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements and health education foundation courses (H Ed 150, 151 and 152). Several supporting courses required in one or both of the health majors fulfill GUR requirements (e.g., Chem 115, 251; Psych 201 or Soc 101; Home Econ 250). Junior and senior years are devoted to the health education core, human development core, and to the community health concentration or to teacher education requirements in the College of Education. Electives that emphasize oral and written communication skills are recommended. Prospective majors are encouraged to fulfill the biological science requirements by the end of their junior year.

BACHELOR OF ARTS IN EDUCATION

Major — School Health Education 65 credits

The school health educator is a practitioner who is professionally prepared in the field of school health education, meets state teaching requirements, and demonstrates competence in the development, delivery, and evaluation of planned curricula and learning activities for students and adults in the school setting that enhance health knowledge, attitudes and problem-solving skills. The school health education major prepares students to coordinate and implement comprehensive school health education programs. Further information and major declaration forms are available from the coordinator of health education, Carver 104, Physical Education, Health and Recreation Department. In addition, students must contact the College of Education Admissions Office regarding procedures specifically related to teacher education entrance requirements. In order to obtain the B.A. in Education with a school health education major, students must fulfill the

College of Education requirements which include a 2.75 GPA. Prerequisites for declaring the school health education major are completion of H Ed 150, 151 and 152.

General Courses 13 credits

- Chem 115*
- Nutrition — Home Econ 250* or Envr 352
- Psych 201* or Soc 101*

**Meets General University Requirements*

Health Education 32 credits

- H Ed 150, 151, 152, 252
- H Ed 345, 346
- H Ed 407, 447, 450, 460, 470

Human Development 20 credits

- Biol 348, 349
- Behavioral/Social Sciences — 10 credits under advisement

School Health — Supporting Teaching Endorsement

24 credits

This course of study is a supporting teaching endorsement. This endorsement can be taken only if the student has a primary endorsement—an academic major certifiable by the Office of Superintendent of Public Instruction. The 24 credits must include, but are not limited to the following: substance use and abuse, wellness and illness, nutrition, human physiology and safety education.

- H Ed 150, 151, 152, 252, 345, 346
- Nutrition—Home Econ 250 or Envr 352
- PE 303 or Biol 348

BACHELOR OF SCIENCE

Major — Community Health

110 credits

A community health educator is a practitioner who is professionally prepared in the field of community health education and demonstrates competence in the planning, implementation and evaluation of a broad range of health-promoting or health-enhancing programs for community

Physical Education

groups. This major prepares students to apply a variety of methods that result in the education and mobilization of community members in actions for resolving health issues and problems which affect the community. Students participate in aspects of programs that identify and address the health needs of target populations.

Prerequisites for entry into the major are completion of H Ed 150, 151 and 152, and a 2.50 GPA. Students must maintain the 2.50 GPA to satisfactorily complete the degree and to enroll in H Ed 451 (internship). Further information and major declaration forms are available from the coordinator of health education, Carver 104, Physical Education, Health and Recreation Department.

PROGRAM OF STUDY

General Courses 18 credits

- Chem 115*, 251*
- Nutrition—Home Econ 250* or Envr 352
- Psych 201* or Soc 101*

*Meets General University Requirements

Health Education 49 credits

- H Ed 150, 151, 152, 252
- H Ed 345, 346
- H Ed 407, 435, 447, 450, 451, 460

Human Development 28 credits

- Upper-division psychology or sociology course
- Biol 348 and 349; 345 or 449
- PE 303
- Journ 405

Concentration 15 credits

Students select supporting courses that relate to the settings in which they wish to practice.

- Recommended courses for community-based:*
 - Psych 315, 316, 353, 360
 - Soc 333, 335, 360
 - H Ed 220, 470
 - Home Econ 350, 450, Envr 454
- Recommended courses for worksite-based:*
 - PE 208, 302, 403, 440
 - Rec 377, Psych 320
 - Tech 328

RECREATION

In response to the leisure needs of society, career opportunities in recreation and leisure services are numerous and diverse. The recreation curriculum prepares students to plan, develop and administer programs and resources in a variety of settings.

The curriculum adapts the quarter system of scheduling classes to a phase system. Students enter phase I of the program during spring quarter of their sophomore year. They continue through the curriculum as a group, as indicated in the schedule below.

	Fall	Win	Spr	Sum
Fresh				
Soph			I	
Junior		II	III	or III
Senior	IV			

The phase system allows maximum flexibility in scheduling workshops, field experiences, conferences and seminars both on and off campus. By making use of other departments at Western, statewide recreation resources and recreation professionals, a wide range of educational experiences is available to the student.

The Recreation program emphasizes preparation in the broad areas of outdoor recreation, community recreation, and therapeutic recreation. Community and outdoor recreation graduates have been successful in finding employment in federal and state recreation and park agencies, county and community recreation departments, commercial recreation businesses and industrial recreation settings. Therapeutic recreation graduates find employment in hospitals, senior centers, nursing homes, mental health agencies, community recreation departments, and federal, state and private agencies serving special populations.

The recreation program is nationally accredited. Students should inquire directly for current information on admission procedures. **The program**

is popular, and the number of major and minor students is limited. Admission is granted on a space-available and first-come, first-served basis. Plan to apply early. The deadline for application is January 31 of each year.

BACHELOR OF ARTS

Major — Recreation 66 credits

- Prerequisite: Rec 171
- Phase I: Rec 271, 272, 274, 275, 276
- Phase II: Rec 372, 373, plus 2 of 4: Rec 375, 376, 377, 378
- Phase III: Rec 471
- Phase IV: Rec 444, 450, plus 2 of 3: Rec 421, 474, 476

Support Area

Recreation majors must develop a 25-credit support area. Support area prescriptions are worked out cooperatively with the student's faculty adviser and must have the adviser's final approval. They may range from traditional minors in sociology, environmental studies and other fields to interdisciplinary studies incorporating courses from a broader spectrum of University course offerings. Support areas are designed on the basis of previous experience in recreation related programs, skills and interests, and professional aspirations.

Example Support Areas: business administration, sociology, special education, communications, retail management, psychology, journalism, natural resource management, environmental planning, physical education, cultural arts, commercial recreation, biology, health promotion.

Minor 35 credits

- Prerequisite: Rec 171
- Complete Phases I and II

GRADUATE STUDY

For a concentration leading to the Master of Education degree, see the Graduate School section of this catalog.

COURSES IN PHYSICAL EDUCATION

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

Developmental Skills/Fitness Leadership

Activities courses, with the exception of varsity sports and those so noted, may not be repeated for credit.

100-level classes: Courses numbered 173 or below are S/U graded. A \$10 fee is required upon registration.

Beginning courses, or equivalent, are prerequisite to intermediate courses, which are in turn prerequisite to advanced courses in any given activity.

101-109 DEVELOPMENTAL (1 ea)

- 102 Conditioning/Aerobic Fitness
- 103 Jogging
- 108 Weight training

111-119 AQUATICS (1 ea)

- 112 Beginning Swimming (for non-swimmers)
- 113 Intermediate Swimming
- 114 Advanced Swimming
- 116 Lifeguard Training—New Method (2)

Prereq: current ARC Standard First Aid and Cardio-Pulmonary Resuscitation Certificate, and advanced swimming test. Instruction leading to qualification for the American Red Cross Lifeguard Training Certification.

120-129 DANCE (1 ea)

- (See Theatre Arts Department for additional dance offerings.)
- 120 Social Dance
 - 122 Folk and Square Dance
 - 123 Scottish Country Dancing

130-139 DUAL SPORTS (1 ea)

- 132 Beginning Badminton
 - 133 Intermediate Badminton
 - 134 Fencing
 - 136 Beginning Tennis
 - 137 Intermediate Tennis
 - 139 Racquetball
- The student furnishes equipment for PE 132, 133, 136, 137, 139.

140-149 TEAM SPORTS (1 ea)

- 142 Basketball
- 144 Soccer
- 145 Volleyball
- 148 Lacrosse
- 149 Rugby

Physical Education

- 150-173 INDIVIDUAL SPORTS (1 ea)
- 150 Archery
 - 151 Gymnastics
 - 154 Golf
 - 156 Track and Field
 - 157 Beginning Skiing
 - 158 Intermediate Skiing
 - 159 Advanced Skiing
 - 160 Sailing
Prereq: swimming test.
 - 161 Board Sailing
Prereq: swimming test.
 - 162 Horsemanship
 - 163 Sailing Instructor Training Course
Prereq: demonstrate basic sailing competence, swimming test.
 - 164 Kayak Touring
Prereq: advanced level in swimming proficiency test
 - 165 Intermediate Sailing/Beginning Racing
Prereq: swimming test and basic sailing skills required.
 - 167 Bicycling
 - 168 Karate
 - 170 Hiking and Alpine Travel (2)
 - 173 Riflery
- The student enrolling in 157, 158, 159, 160, 161, 162, 163, 164, 165, 170 and 173 pays cost of transportation and individual instruction. Students in 157, 158, 159 and 167 also furnish own equipment.
- 180-193 INTERCOLLEGIATE SPORTS (2 ea)
- 180m Intercollegiate Football
 - 181 Intercollegiate Basketball
 - 183 Intercollegiate Track and Field
 - 185 Intercollegiate Golf
 - 186 Intercollegiate Tennis
 - 189 Intercollegiate Cross Country
 - 190 Intercollegiate Crew
 - 192w Intercollegiate Volleyball
 - 193m,w Intercollegiate Soccer

- 208-256 INSTRUCTIONAL TECHNIQUES (2 ea)
- Selectively required of majors and/or minors in physical education as these courses deal with teaching of the sport. Prereq: competency in skills and knowledge of the sport.
- 208 Strength Training for Fitness Conditioning
 - 220 Dance: Creative, Folk and Square K-6
 - 232 Racket Sports
 - 243 Contemporary Recreational Activities
 - 245 Team Sports
 - 250 Body Management and Gymnastics K-6
 - 251 Gymnastics
 - 256 Track and Field
- 217 WATER SAFETY INSTRUCTOR COURSE—NEW METHOD (3)
- Prereq: ARC Emergency Water Safety Certificate or ARC Lifeguard Training Certificate. 80 percent or better on written pre-test, and 100 percent on swimming skill test.
- 301 BIOMECHANICS (4)
- Prereq: completion of math GUR. Application of basic mechanical principles to movement. Motion fundamentals, kinetics, kinematics, aerodynamics, hydrodynamics, equilibrium and external forces, rebound and spin, two-dimensional analysis, and the body as a machine; laboratory work is included.
- 302 KINESIOLOGY (5)
- Prereq: Biol 348 or equivalent. Important muscles of the body; origin, insertion and action, principles of human movement; performance analysis of basic locomotor movements, daily living activities, and sports skills; laboratory work included.

- 303 PHYSIOLOGY OF EXERCISE (5)
- Prereq: Biol 348. Nature of muscular, metabolic, cardiovascular and respiratory adjustments to acute and chronic exercise. The effect of training on fitness and health. Includes experimental laboratory sessions.
- 304 ATHLETIC INJURIES AND TRAINING (3)
- Prereq: Biol 348. Care and prevention of athletic injuries; procedures for building physical stamina; experience in taping procedures.
- 306 PHYSICAL EDUCATION FOR ELEMENTARY SCHOOL (3)
- Prereq: admission to the College of Education and Psych 31E or 352. Physical activities in dance, games and gymnastics for elementary age. Methods of teaching and developmental characteristics of children

Professional Courses

- 201 PERSPECTIVES OF HUMAN LIFESTYLE AND WELLNESS (3)
- Overview and analysis of the role and place lifestyle and wellness play in society (past, present and future).
- 203 INTRODUCTION TO PHYSICAL EDUCATION (3)
- Required for acceptance into the program. Career orientation, professional organization, research, physical fitness and skill competency testing; relationship between physical education and athletics.

- 307 **MOTOR LEARNING (3)**
Prereq: PE 203 and six credits from PE 208-256. Principles of motor skills acquisition as it relates to teaching methodology and coaching techniques.
- 308 **INTERNATIONAL ASPECTS OF PHYSICAL EDUCATION, SPORT, HEALTH AND LEISURE (3)**
Prereq: PE 203. An analysis of various aspects of physical education, elite sport, health and leisure throughout the world.
- 309 **PSYCHOLOGY OF SPORT (3)**
Psychological principles and states which are present in sporting activities, both at recreational and highly competitive levels.
- 310 **SOCIOLOGY OF SPORT (3)**
Sociological implications of sport in contemporary American society.
- 320 **DANCE: SOCIAL: GRADES 6-12 (2)**
Prereq: admittance to the College of Education and PE 220. Introduces a sequence of ballroom and social dance steps with view to teaching children to dance. Methodology is geared primarily to the secondary level, although students learn steps appropriate for the elementary level.
- 341-347 **SPORTS OFFICIATING (2 ea)**
Officiating techniques for individual and team sports.
342m Basketball
342w Basketball
343 Track and Field
- 350 **GAMES AND SPORTS: STRATEGIES FOR TEACHING IN ELEMENTARY AND MIDDLE SCHOOLS (2)**
Prereq: admittance to the College of Education and PE 250. Developing problem-solving strategies, modified games/sports, creative games in cooperative and competitive activities. Use of learning centers/stations.
- 380-387 **COACHING SPORTS (2-3 ea)**
Practical and theoretical aspects of coaching the sport with special emphasis on advanced skill development and current methodology and resource material being utilized.
380 Football (3)
381 Basketball (3)
383 Track (3)
385 Volleyball (2)
387 Tennis (2)
- 392 **PHYSICAL EDUCATION OBSERVATION/TEACHING EXPERIENCE WITH CHILDREN (1-4)**
Prereq: admittance to the College of Education and PE 250 or 306. Observation and micro-teaching experience in school settings.
- 401 **SECONDARY SCHOOL METHODS AND PROFESSIONAL PRACTICUM (5)**
Prereq: admittance to the College of Education, junior status and completion of 20 credits in the program. Seminar, observation, and practical experience in teaching physical education in secondary schools.
- 402 **CORRECTIVE PHYSICAL EDUCATION (3)**
Prereq: Biol 348 or equivalent; PE 302. Implications of growth patterns, coordinations and postural deviations relating to the physical education program; conditioning techniques, corrective procedures.
- 403 **PHYSICAL FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION (5)**
Prereq: PE 302, 303. Examine techniques of evaluation for physical fitness with an emphasis on aerobic capacity, flexibility, strength and body composition; assess case studies and develop appropriate exercise program and re-evaluation. Includes experimental laboratory sessions and practical laboratory skills analysis.
- 407 **HISTORY, PHILOSOPHY AND ETHICS OF PHYSICAL EDUCATION (4)**
Prereq: PE major or minor; senior status. Philosophical and historical considerations of physical education with emphasis on social, cultural and aesthetic aspects of sports and dance.
- 408 **SEMINAR IN SPORT PSYCHOLOGY (3)**
Prereq: Psych 201, 311; PE 307, 309, 310. An interdisciplinary seminar (psychology/physical education) exploring core topics of sport psychology including: evaluation of athletes, research design and strategies, personality assessment, mental and physical preparation for competition, clinical applications.
- 409 **PHYSICAL EDUCATION ADMINISTRATION & MANAGEMENT (3)**
Prereq: PE 203; 15 credits in the major courses. Criteria for the selection of program activities, planning and maintenance of facilities and equipment, personnel development, evaluative procedures and techniques, administrative policies.
- 440 **PHYSICAL ACTIVITY AND NUTRITION (3)**
Prereq: PE 303, Envr 352, or permission of instructor. Current topics on exercise and nutrition; weight control, obesity, dietary supplementation and performance, fluid regulation, atherosclerosis and diabetes.
- 485 **HUMAN GROWTH AND MOTOR DEVELOPMENT (3)**
Growth characteristics and sequence of motor development to maturity; implications for motor performance.

Physical Education

490 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION (3)

Application of the theory of measurement, evaluation, and appropriate statistical processes to physical education programs; practical experiences involving test selection, administration and evaluation and interpretation of results in public school or fitness settings.

491 FIELD EXPERIENCE IN PHYSICAL EDUCATION ACTIVITIES (3)

Prereq: senior status and written permission of supervisor. Practical volunteer experience in agencies such as hospitals, fitness facilities, physical therapy clinics, on-campus fitness programs, community youth sport organizations and athletic training facilities. Repeatable with permission. S/U grading.

492 PRACTICUM IN PHYSICAL EDUCATION (2)

Prereq: upper-division status, permission of department. Individualized practicum in teaching physical education activities. The course may be repeated. S/U grading.

496 PHYSICAL EDUCATION FOR THE EXCEPTIONAL CHILD (3)

Prereq: PE 485 or permission of instructor. Develop knowledge of exceptional child classifications and relate to aspects of normal motor development and learning characteristics specific to school-age children; includes methods, assessment and movement activities specific to elementary and secondary physical education.

Graduate Courses in Physical Education

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

502 RESEARCH TOPICS IN PHYSICAL EDUCATION (2-5)

Prereq: graduate status. Supervised study in topics relating to sociology/psychology of sport, biomechanics, exercise physiology, history, curriculum, pedagogy, human growth and motor development.

504 CURRICULUM IN PHYSICAL EDUCATION (4)

Prereq: teaching experience. Physical education programs, based on the needs, interest, abilities of students.

505 ANALYSIS OF EFFECTIVE TEACHING AND COACHING (4)

Prereq: PE 401 or equivalent; access to a teaching or coaching situation; previous teaching or coaching experience. Exploration of the current research in the area of teaching effectiveness in physical education and coaching, together with analysis, design and implementation of teaching and coaching effectiveness instruments.

506 RESEARCH DESIGN IN PHYSICAL EDUCATION (4)

Prereq: graduate status or EdAF 501 or taken concurrently. Purpose and design of various methods with emphasis upon experimental, descriptive, survey methods usually incorporated in schools, agencies, colleges; computer application.

507 MOTOR LEARNING: ADVANCED (3)

Prereq: PE 307 or equivalent. Factors affecting the acquisition of skill; individual and group differences, retention, transfer of training, motivation in learning motor skills.

509 ADMINISTRATION OF PHYSICAL EDUCATION, SPORTS, PHYSICAL ACTIVITY CENTERS (3)

Prereq: EdAF 541a, physical education major degree, teaching experience. Administrative structures, policies and procedures for the conduct of physical education and sports programs in school, commercial and governmental agencies. Discussion will be given to budgets, legal liability, purchase and maintenance of equipment, facilities, public relations.

510 LABORATORY TECHNIQUES IN EXERCISE SCIENCE (4)

Prereq: PE 301 and 303 or equivalent. Common laboratory techniques utilized in exercise science will be presented with emphasis on body composition analysis, circulo-respiratory testing, phlebotomy/blood analysis, muscular strength and endurance, computer usage, force platform analysis, electrogoniometry and cinematographical techniques.

511 PHYSICAL ACTIVITY AND HYPOKINETIC DISEASES (3)

Prereq: PE 303 or equivalent and permission of instructor. Survey of effects of physical activity on disease processes related to hypokinesia: cardiovascular disease, obesity, diabetes, osteoporosis, arthritis. Overview of needs of special populations: geriatrics, children.

- 513 **EXERCISE PRESCRIPTION AND PROGRAMMING (4)**
Prereq: PE 302, 303 or equivalents. Design safe, effective and enjoyable physical activities for selected populations in competitive, preventive and rehabilitative exercise programs. Medico-legal aspects and administration of exercise prescription and programming. Case studies.
- 520 **READINGS IN PHYSICAL EDUCATION (2-4)**
Prereq: graduate status. Directed readings, analysis, discussion of current literature on physical education culminating in a colloquium of a chosen topic.
- 531 **SEMINAR IN COMPARATIVE PHYSICAL EDUCATION (3)**
Prereq: PE 407. Physical education systems in major countries: backgrounds, types, aims and present function; comparison with the American system.
- 533 **CARDIOVASCULAR PHYSIOLOGY (3)**
Prereq: PE 303 or Biol 348 or equivalent. Advanced principles and concepts regarding cardiovascular dynamics. Examines various parameters of the cardiovascular system, the relationship of resting data to exercise data, and electrocardiography.
- 540 **APPLIED EXERCISE PHYSIOLOGY (4)**
Prereq: exercise physiology. Selected topics in advanced exercise physiology: homeostasis, energy systems, metabolism, cardiorespiratory adjustments, hormonal control, neuromuscular physiology, ergogenic aids, thermoregulation, by lecture and recitation.
- 541 **SEMINAR IN SPORT PSYCHOLOGY (3)**
Prereq: PE 309 or permission of instructor. Theoretical foundations and behavioral applications of sport psychology including: history and current status of sport psychology, individual differences in sport behavior, motivation in sport, exercise psychology, social influence and sport, and the dynamics of sport groups.
- 542 **SEMINAR IN SPORT SOCIOLOGY (3)**
Prereq: PE 310 or permission of instructor. The study of sport as a microcosm of society with particular emphasis on the following topical areas: economics and sport, social mobility and sport, socialization, ethnic issues and sport, gender issues and sport, education and sport, sport and politics, and current social issues and sport.
- 543 **SEMINAR IN BIOMECHANICS (4)**
Prereq: PE 301, 302 or equivalent. Application of mechanical principles to analysis of motor skills and athletic events.
- 544 **BIOMECHANICS OF THE MUSCULO-SKELETAL SYSTEM (4)**
Prereq: PE 301, 302 or equivalent and permission of instructor. Selected topics relating to biomechanics of the musculoskeletal system, muscular and skeletal system characteristics, biomechanics of the hip, knee, shoulder, foot, ankle and vertebral column.
- 551 **APPLIED SPORT AND EXERCISE PSYCHOLOGY (3)**
Prereq: PE 541. Provides comprehensive overview of applied educational strategies and techniques in sport and exercise psychology, including performance enhancement/intervention strategies and techniques, exercise psychology, psychosocial foundations of youth sport programs and psychology of coaching.
- 592 **INTERNSHIP (2-6)**
Prereq: completion of coursework and permission of instructor. Supervised internship in schools, hospitals, clinics or corporation/industries as appropriate to complement the student's area of interest. S/U grading.
- 690a **THESIS (6-9)**
Prereq: formal advancement to candidacy for the master's degree.
- 690b **FIELD PROJECT (6-9)**
Prereq: formal advancement to candidacy for the master's degree.

COURSES IN HEALTH EDUCATION

Courses numbered X37, X97: 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 150 **CONSUMER HEALTH (2)**
Analysis of media promotion of health products and services; health quackery. guidelines for choosing health care. consumer protection.
- 151 **SOCIETY AND DRUGS (2)**
Physiological and behavioral effects of legal and illegal drugs: societal substance use and abuse: alternatives to drug use.
- 152 **SOCIETY AND SEX (2)**
Sociological, psychological, and biological aspects of human sexuality.
- 220 **CANCER: FACTS AND FICTION (1)**
An educational series providing basic overview of cancerous diseases; risk factors; prevention; methods of treatment; community resources; coping with cancer.

Physical Education

252 STANDARD FIRST AID AND PERSONAL SAFETY (2)

Principles and application of techniques of basic first aid for emergencies due to illness and injury. Students are eligible for an ARC Standard First Aid Certificate and an Adult CPR Certificate upon successful completion of the course.

345 HEALTH PROMOTION/DISEASE PREVENTION (3)

Prereq: junior status in PEHR Department. Relationship of lifestyle to health; investigation of chronic/degenerative and infectious diseases.

346 CONTEMPORARY HEALTH ISSUES (3)

Prereq: junior status; 6 credits in health education. Exploration of current health issues.

351 FIRST AID AND CARDIO-PULMONARY RESUSCITATION (1)

First aid using a multi-media program including units on cardio-pulmonary resuscitation.

407 PRINCIPLES AND PRACTICES OF HEALTH EDUCATION (3)

Prereq: H Ed 345, 346. Historical perspectives of health education; professional issues and ethics; principles and practices of health education. Writing proficiency course.

435 ASSESSMENT AND DESIGN OF HEALTH PROMOTION PROGRAMS (5)

Prereq: H Ed 345, PE 303; PEHR departmental major. Analysis and application of methods to determine high risks, needs and interests of individuals and groups; analysis and design of health promotion programs.

447 COMMUNITY HEALTH (3)

Prereq: 10 credits in health education or permission of instructor. Definition of community health; organization and administration of community, voluntary, private, and public health agencies and services; direct involvement with health-related agencies; investigation of health issues related to Objectives for the Nation.

450 METHODS AND MATERIALS IN HEALTH EDUCATION (4)

Prereq: H Ed 345, 346 or permission of instructor. Principles and application of methodology for educating about health in school, community, worksite and medical care settings; utilization and evaluation of resources.

455 HEALTH EDUCATION GRADES K-8 (2)

Prereq: senior status; admission to teacher education. Instructional methods in health for grades K-8; selection, analysis, and application of health education curricula and materials; education about prevention of child abuse and alcohol/drug abuse, AIDS/HIV and sexuality education.

460 PROGRAM PLANNING AND EVALUATION IN HEALTH EDUCATION (5)

Prereq: H Ed 447, 450. Application of processes of program development in designing health education programs.

470 SCHOOL HEALTH PROGRAM (3)

Prereq: H Ed 345, 346; or teaching experience. Organization, policies and procedures of school health services, healthful school environment, and health instruction; analysis of critical health issues, including child abuse and alcohol/drug abuse of young people.

COURSES IN RECREATION

Courses numbered X37, X97; 300, 400, 417, 445 are described on pages 38-39 of this catalog.

171 FOUNDATIONS OF RECREATION AND LEISURE (3)

Professional course dealing with the history, philosophy, present status, future goals, and challenges of leisure and the recreation service professions.

271 COMMUNITY RECREATION AND LEISURE SERVICES (4)

Prereq: Rec 171; majors and minors only. Community-based recreation service agencies; philosophies, functions, services, personnel and facilities. Emphasis on the diversity and inter-relatedness of community recreation service agencies.

272 DYNAMICS OF OUTDOOR RECREATION (4)

Prereq: Rec 171; majors and minors only. Introduction to the major professional components of the outdoor recreation field; interpretive services, camping, resource management, programming, private recreation and tourism. Focuses on trends, programs, and related professional issues.

274 INTRODUCTION TO THERAPEUTIC RECREATION (4)

Prereq: Rec 171; majors and minors only. Introduction to the principles and practices of therapeutic recreation. Includes history, philosophy, and trends and issues. Also presents an overview of consumer groups associated with therapeutic recreation.

- 275 PROFESSIONAL PRACTICUM (2)
Prereq: Rec 171; majors and minors only. Participation in a recreation and park agency in the delivery of recreation services. S/U grading.
- 276 RECREATION PROGRAMMING I (2)
Prereq: Rec 171; majors and minors only. Leading and processing recreation experiences in community, outdoor and therapeutic recreation settings: individual, group and environmental factors.
- 372 MANAGEMENT OF RECREATION AND PARK SERVICES (4)
Prereq: Phase I. Entry-level administrative skills associated with managing personnel and organizational resources within parks and recreation systems.
- 373 RECREATION PROGRAMMING II (4)
Prereq: Phase I. Systems approach to programming methods for individual and group program planning in all parks and recreation settings.
- 375 PARK AND FACILITY DESIGN AND OPERATION (4)
Prereq: Phase I or appropriate experience and written permission. Design and operations considerations for the park and recreation administrator: program development, master plans, functional considerations, scheduling and maintenance.
- 376 THERAPEUTIC RECREATION PROGRAM DESIGN (4)
Prereq: Phase I or appropriate experience and written permission. Methods and techniques in the organization, implementation and evaluation of recreation programs for special populations: needs assessment, activity modification, adaptive equipment, physical and behavioral management and intervention techniques.
- 377 INDUSTRIAL RECREATION (4)
Prereq: Phase I or written permission. Providing recreation and employee service programs in organizations: planning, organization, marketing, leadership and evaluation.
- 378 HUMAN RELATIONS AND RECREATION DEVELOPMENT (4)
Prereq: Phase I; recreation major. Development of basic human relations concepts and skills required of recreation professionals working in contexts designed to help improve the quality of life for clients.
- 380 THERAPEUTIC RECREATION TECHNIQUES AND RESOURCES (3)
Prereq: Rec 171, Phase I or appropriate experience and written permission. Concentrated analysis of the process and practice of therapeutic recreation includes medical terminology, disabling conditions, adaptations, models of health care, rehabilitation techniques, and further examination of the foundations and development of therapeutic recreation.
- 421 PRINCIPLES AND PRACTICES OF THERAPEUTIC RECREATION (3)
Prereq: Phase III or appropriate experience and written permission. Principles and practices of therapeutic recreation in relation to a variety of special populations served by recreation professionals.
- 444 RECREATION BUDGETING AND FINANCE (4)
Prereq: Phase III. Principles and techniques of obtaining, budgeting and managing financial resources in parks and recreation agencies.
- 450 RESEARCH AND INFORMATION SYSTEMS (4)
Prereq: Phase III. Survey research methods: mail, telephone and face-to-face interviews; data analysis and report writing. Library research sources and techniques.
- 471 INTERNSHIP (15)
Prereq: Phase II. Full-time supervised professional experience emphasizing functional proficiency under joint sponsorship of University and agency personnel. S/U grading.
- 474 OUTDOOR PROGRAM DEVELOPMENT (3)
Prereq: Phase III or appropriate experience and written permission. Methods and techniques in the organization, implementation and evaluation of recreation programs in outdoor settings. Emphasis on outdoor adventure programming.
- 476 TOURISM PLANNING AND DEVELOPMENT (3)
Prereq: Phase III or written permission. Study of the nature and process of planning as a function of tourism industry development; focus on the application of resource and activity planning principles to the recreational travel and tourism experience.
- 480 LEISURE AND SOCIETY (2)
Prereq: Phase III or appropriate experience and written permission. Builds on general education and foundations of professional education and is a senior capstone for recreation majors. Goal is to synthesize diverse strands of theory and practice into an integrated understanding of recreation and leisure in modern society, with implications for professional service.

Physics & Astronomy

The Department of Physics and Astronomy offers seven major programs. Each of these is based on a core curriculum that covers the five fundamental theories of physics: mechanics, thermodynamics, electromagnetism, relativity and quantum mechanics. Laboratory work forms an important part of these core courses, and more sophisticated upper-division laboratories are offered in electronics, optics, holography, lasers and electro-optics.

Students majoring in physics are encouraged to work for the department as laboratory teaching assistants and as co-workers in the technical work of the department. Such employment provides valuable experience as well as financial support. It also promotes close association between faculty and students.

PHYSICS

Physics is the fundamental science. It is the study of matter and energy and of the interaction between the two. Astronomy, biology, chemistry, geology and engineering apply the principles of physics to specific problems. Almost all areas of modern technology involve applications of physics. An undergraduate major in physics provides a solid foundation upon which to build later work in astronomy, optics and engineering, as well as physics itself.

To become a professional physicist requires a Ph.D. degree. Students planning careers in physics should select the physics Bachelor of Science program, since this will give them the extensive background required for success in graduate school.

The department offers three versions of the physics Bachelor of Science degree: The physics concentration, the math-physics concentration and the optics concentration. The three

concentrations differ only in the choice of four or five upper-division courses. The physics concentration is probably best for students planning to become experimental physicists. The math-physics concentration may be preferable for students who are interested in theoretical physics. The optics concentration is recommended to students considering careers in optics, optical science or optical engineering. (See the Optics section below for more information about the optics concentration.)

The department also offers two concentrations leading to the Bachelor of Arts degree. Each of these concentrations requires fewer physics credits than the Bachelor of Science degree, so a student has more options for exploring other fields. A student who is not planning to go on to graduate school in physics or astronomy might wish the additional freedom and flexibility that distinguishes the B.A. degree from the B.S.

ASTRONOMY

Although cultures all over the world have observed and formed theories about stars, planets and the universe throughout history, today is undoubtedly the golden age of astronomy. More and bigger telescopes, increasingly sophisticated electronic instrumentation, computers and the space programs of several nations have all combined to bring an unprecedented flood of discoveries.

To become a professional astronomer requires a Ph.D. in astronomy, so anyone seriously considering a career as an astronomer should plan on going to graduate school. Students planning to become astronomers should select the physics Bachelor of Science program. Any of the three concentrations (described in the Physics section above) pro-

vides the solid background in physics, mathematics and computer science that astronomy graduate schools expect students to have. Students are advised to take Astronomy 315, 316, 320 and 416 in addition to the courses required for the major. Physics 485, a course devoted to Fourier transform methods, also is strongly recommended. (The department also offers an astronomy concentration as a Bachelor of Arts option, but this degree is more appropriate for students who do not plan to become astronomers).

OPTICS

Optics is the study of light. Optical science has emerged as a field that deals not only with light but with the interaction of light with matter. Optical engineering applies optics and optical science to the design and construction of useful devices and systems that generate, manipulate or detect light and other forms of electromagnetic radiation.

Students interested in careers in optics, optical science or optical engineering should select the physics Bachelor of Science degree with the optics concentration. After obtaining a solid foundation in geometrical and physical optics, junior-level students in the optics concentration study the principles of laser operation and some of the many applications of lasers. Some students construct their own lasers or do independent project work in the department's well-equipped laser laboratory. The senior year begins with a course in modern optics. Here, the student receives a rigorous grounding in Fourier optics and the theory of coherence. Laboratory experiments are performed in spatial filtering and optical image processing. An electro-optics course follows and includes the study of modulators, beam deflectors, nonlinear optics, imaging devices, light sources and detectors, and fiber optics. Holography rounds out the program, with a great deal of time spent producing many different

types of holograms in the laboratory. Optics concentration students also are advised to take Physics 485 (Fourier transform methods) and Physics 356 (analog and digital electronics).

Optical science and optical engineering have become important fields for both industry and government. Although many optics concentration students will wish to go on to graduate school in optical science or engineering, there are job opportunities available to the graduate with just the Bachelor of Science degree. Major international meetings are held several times a year (in cities all over the world) by SPIE—the International Society for Optical Engineering. This organization has its headquarters in Bellingham, and an excellent relationship has developed between the Physics/Astronomy Department and SPIE. Western's physics majors are often employed as projectionists at SPIE meetings, giving them a chance to see the latest in high-tech optics equipment as well as learn about the latest developments in optical science and engineering.

COMPUTER SCIENCE

Increasingly, the equipment used in physics, astronomy and other fields is run by computers. Data acquisition, storage, manipulation and analysis may all be carried out by one major piece of software. Writing the programs for such applications requires more than just a knowledge of computer programming, since one also must understand the basic problems that need to be solved by the software, and this requires understanding the physical phenomena. Students who select the physics/computer science Bachelor of Science degree will acquire the computer science *and* physics backgrounds needed to work in these areas of applied computer science.

PHYSICS EDUCATION

Students planning to teach physics in the secondary schools must receive

an endorsement in physics. The department offers a physics/mathematics Bachelor of Arts in Education degree that will enable a student to receive endorsements in both fields. The Chemistry Department offers a chemistry/physics Bachelor of Arts in Education degree that will enable a student to receive endorsements in both physics and chemistry.

ACADEMIC PLACEMENT

Advice to Freshman

The physics curriculum that forms the core of each of the seven majors is arranged in a logical sequence. It is important to start the core sequence as early as possible, since any substantial delay will result in the student needing more than four years to complete the degree. All physics major courses require mathematics, and calculus is particularly important. For this reason, a *freshman considering a major in physics should take Math 124 (Calculus and Analytic Geometry) during the first quarter at Western*. Freshmen who have had some calculus in high school are advised to take Physics 121 (Physics with Calculus) that same first quarter, along with Math 124. Freshmen who have had no calculus at all may wish to postpone Physics 121 until their second quarter at Western, so that they may first complete Math 124. The physics course sequence has been arranged so that this one-quarter delay will not cause any problems later, so long as Math 124 is still taken the first quarter. Freshmen who elect to delay Physics 121 one quarter are advised to take Physics 119 (Introduction to Special Relativity) their first quarter at Western. This course does not require calculus beyond what the student would know from taking Math 124 concurrently, yet it deals with an important area of physics that will be useful when taking later physics courses.

Advice to Transfer Students

Each of the seven majors offered by the department is based on the fol-

lowing common core:

- Physics 121, 122, 123, 125; Math 124, 125, 224*, 204
- Physics 221, 222*, 231, 232*; Math 225*, 226*, 331; CS 210*
- Physics 355*, 371*, 375*, 381*, 382*, 383*, 39*, 392*, 393*

The courses marked by an asterisk (*) are required in most of the seven majors, but not all. Each of the three concentrations of the physics B.S. degree also requires Physics 421 and 422 (Quantum Mechanics I and II) as well as Chem 121 (General Chemistry I).

Students planning to transfer to Western should strive to take as many equivalents to the first grouping of courses above as possible. The college sequence equivalent to Physics 121-122-123 will usually be called introductory physics with calculus and will probably include a lab course equivalent to Physics 125 (which accompanies Physics 123). Math 124-125-224 is the first year of college calculus, and Math 204 is linear algebra. It is unlikely that a community college will have a course equivalent to Physics 221 and its lab, Physics 231. This course pair constitutes a rigorous introduction to optics.

DECLARATION OF MAJOR

A cumulative GPA of at least 2.50 must be maintained in the courses required by the major. This GPA requirement applies to admission to the major as well as graduation with a degree in the major. A freshman or transfer student who has not yet received grades at Western may be accepted provisionally.

Students planning to major in physics are urged to declare the major as early as possible, preferably their freshman year. This will enable them to obtain advice that may shorten the total time required to complete the degree. The department also offers certain benefits to majors that are not available to other students, such as after-hours access to department computers and laboratory equip-

ment, employment by the department and, in some cases, office space.

INFORMATION

Interested persons are invited to contact the department chair in Bond Hall 152, phone (206) 676-3818.

PHYSICS AND ASTRONOMY FACULTY

- ROBERT J. QUIGLEY (1970) Chair.
Professor. BS, MS, California Institute of Technology, MA, PhD, University of California, Riverside.
- RICHARD A. ATNEOSEN (1968) Associate Professor. BS, MS, University of Minnesota, PhD, Indiana University
- W. LOUIS BARRETT (1968) Associate Professor. BS, University of Idaho, MS, PhD, University of Washington.
- MELVIN G. DAVIDSON (1967) Professor. AB, Whitman College, PhD, Rensselaer Polytechnic Institute.
- WILLIAM J. DITTRICH (1951) Associate Professor. BS, MS, University of Washington.
- RICHARD FEINBERG (1980) Professor. BS, State University of New York; MS, PhD, Stanford University.
- RICHARD H. LINDSAY (1961) Professor. BS, University of Portland; MS, Stanford University; PhD, Washington State University.
- AJIT S. RUPAAL (1964) Professor. BSc, MSc, Panjab University; PhD, University of British Columbia.
- LESLIE E. SPANEL (1968) Associate Professor. BS, University of Missouri, Rolla; PhD, Iowa State University, Ames.
- DONALD L. SPRAGUE (1965) Associate Professor. BS, MS, PhD, University of Washington.
- JAMES E. STEWART (1987) Associate Professor. BA, BS, University of North Dakota; MS, PhD, University of New Mexico.
- RICHARD D. VAWTER (1968) Associate Professor. BS, Texas Technological University; MS, State University of Iowa; PhD, State University of New York
- J. JOSEPH VEIT (1963) Professor. BSc, University of London; MSc, University of Birmingham; PhD, University of London.

Research Associates

- John S. Blakemore (1989) BSc, PhD, DSc, University of London.
- Roy F. Potter (1977) BS, University of Washington; MS, University of Maryland; PhD, University of Rhode Island.

BACHELOR OF ARTS

Major — Physics 85-86 credits
Core Courses (required of both concentrations)

- Physics 121, 122; Math 124, 125, 224, 204
- Physics 123, 125, 221, 222, 231, 232; Math 225, 226, 331
- Physics 375, 381, 382, 383, 391, 392, 393

The first group above should be taken the freshman year, the second group the sophomore year and the third group the junior year.

In addition complete one of the following concentrations:

Physics Concentration

- Physics 371 plus 8 credits of upper-division physics courses

Astronomy Concentration

- Astron 315, 316, 320

Physics 119, Chem 121, CS 210 and Math 432 are recommended for both concentrations. Physics 371 and Astron 416 are recommended for the astronomy concentration. Physics 419 is recommended as a course to satisfy the writing proficiency requirement.

Minor — Physics 40 credits

- Physics 121, 122, 123, 125, 221, 222, 231, 232
- Math 124, 125, 224

BACHELOR OF SCIENCE

Major — Physics 110 credits

Core Courses (required of all three concentrations)

- Physics 121, 122, 123, 125; Math 124, 125, 224, 204; Chem 121
- Physics 221, 222, 231, 232; Math 225, 226, 331; CS 210
- Physics 371, 375, 381, 382, 383, 391, 392, 393
- Physics 421, 422

The first group above should be taken the freshman year, the second group the sophomore year, etc.

In addition complete one of the following concentrations:

Physics Concentration

- Physics 355, 356

Physics/Astronomy

- 7 credits of 400-level physics courses

Math-Physics Concentration

- Math 304, 432, 438
- 3 credits of 400-level physics or mathematics courses

Optics Concentration

- Physics 355, 405, 409, 410, 411, 412

Physics 119 and 485 are recommended for all three concentrations. Physics 362, 372 and 403 are strongly recommended for the optics concentration. Physics 419 is recommended as a course to satisfy the writing proficiency requirement.

Combined Major — Physics/ Computer Science 110 Credits

- Physics 121, 122, 123, 125; Math 124, 125, 226, 204
- Physics 221, 231; Math 331, 432; CS 210, 310, 331
- Physics 355, 356, 381, 382; CS 332; Math-CS 207, 208
- Math-CS 375; plus 20 credits of upper-division courses in physics, computer science or math/computer science, of which at least 8 credits must be in physics and at least 3 credits must be in computer science or math/computer science

Physics 119, 222, 383, 485, and Math 224 and 225 are recommended electives. Physics 419 is recommended as a course to satisfy the writing proficiency requirement.

BACHELOR OF ARTS IN EDUCATION

Teaching Endorsement

Recommendation for teaching endorsement requires completion of the appropriate major with a minimum grade point average of 2.50 in courses required by the major.

**Major — Physics/
Mathematics** 99 credits

- Physics 119, 121, 122; Math 124, 125, 224, 204;
- Physics 123, 125, 221, 222, 231, 232; Math 331; CS 210; Math-CS 207
- Physics 355; Math 305
- Math 360, 483; Sci Ed 491, 492; plus 15 credits of upper-division physics courses (Physics 381, 382, 383, 391, 392 and 393 are recommended)

This major meets the requirements for Washington state teaching endorsements in both physics and mathematics.

Chemistry 121, Math 225 and 226 are recommended electives. It is recommended that either Physics 419 or Math 419 be taken to satisfy the writing proficiency requirement.

Major — Chemistry/Physics

See the Chemistry Department section of this catalog.

COURSES IN PHYSICS

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 101 PHYSICS FOR THE LIBERAL ARTS (4) F,W,S
Prereq: Math 102. Basic concepts of physics: force, mass, velocity, acceleration and energy; waves and sound; temperature and heat; electricity and magnetism; light; atoms and nuclei. For students with no previous physics background. Laboratory.
- 114 PRINCIPLES OF PHYSICS I (5) F,W
Prereq: Math 103 and knowledge of elementary trigonometric functions. Kinematics and dynamics of particles; concepts of force, momentum and energy; behavior of fluids; vibrations and waves. Recommended for students in science and pre-professional programs not requiring physics and calculus.
- 115 PRINCIPLES OF PHYSICS II (5) W,S
Prereq: Physics 114. Kinetic theory; heat and thermodynamics; principles of electricity and magnetism. Laboratory.
- 116 PRINCIPLES OF PHYSICS III (5) S
Prereq: Physics 115. Geometrical and wave optics; relativity; atomic and nuclear physics. Laboratory.

- 119 INTRODUCTION TO SPECIAL RELATIVITY (3) F
Prereq: Math 124 (or concurrent). The relationship of space and time; the Michelson-Morley experiment; the Lorentz transformation; time dilation and the Lorentz contraction; space time events and world lines, spacetime four-vectors; relativistic momentum and energy.
- 121 PHYSICS WITH CALCULUS I (5) F,W
Prereq: Math 124 (or concurrent). Kinematics and dynamics of particles; work and energy; collisions and conservation of momentum; rotational kinematics and dynamics. Laboratory.
- 122 PHYSICS WITH CALCULUS II (5) W,S
Prereq: Physics 121 and Math 125 (or concurrent) Oscillation, gravitation, fluid statics and dynamics; waves and sound; thermodynamics. Laboratory.
- 123 ELECTRICITY AND MAGNETISM (4) F,S
Prereq: Physics 122 and Math 224 (or concurrent). Concurrent enrollment in Physics 125 (lab) required for physics majors. Electrostatics; magnetic fields of steady currents; time-varying electric and magnetic fields; DC and AC circuits; electromagnetic waves.
- 125 E AND M LABORATORY (1) F,S
Prereq: concurrent enrollment in Physics 123.
- 201 THE SCIENCE OF HIGH FIDELITY (3) F
High-fidelity audio components. Basic principles applied to the recording and reproduction of music. Operation and evaluation of tape recorders, turntables, phonocartridges, amplifiers, loudspeakers, etc. Laboratory.
- 202 SOUND SYSTEMS (3) W
Prereq: Physics 201 Room acoustics, electronic alteration of sound amplifiers, crossover networks, VHS and Beta HiFi, digital sound.
- 203 MUSICAL ACOUSTICS (3) S
Physical and subjective characteristics of sound; analysis of musical sounds; musical instruments: scales and room acoustics. Laboratory. Not intended for physics majors.
- 205 LASERS AND HOLOGRAPHY (3) F
Introduction to lasers, laser light and holography. Laboratory. Not intended for physics majors.
- 221 OPTICS (4) W
Prereq: Physics 122 and Math 224. Concurrent enrollment in Physics 231 (lab) required for physics majors Reflection and refraction at plane and spherical surfaces; lenses and aberrations; optical instruments; interference and interferometers; diffraction; polarization.
- 222 THERMAL PHYSICS (4) S
Prereq: Physics 122 and Math 225. Concurrent enrollment in Physics 231 (lab) required for physics majors. Laws of thermodynamics; state variables; Maxwell relations; entropy; heat engines and refrigerators. thermal properties of matter.
- 231 OPTICS LABORATORY (1) W
Prereq: concurrent enrollment in Physics 221.
- 232 THERMAL LABORATORY (1) S
Prereq: concurrent enrollment in Physics 222.
- 271 STATICS FOR ENGINEERS (4) W
Prereq: Math 125 (or concurrent) and Physics 121. Principles and basic concepts of statics, parallelogram law; Newton's laws; resultants; force-couple relationships; equilibrium diagrams; equilibrium analysis; three-dimensional structures; two-dimensional frames, trusses. friction and virtual work.
- 272 DYNAMICS FOR ENGINEERS (4) S
Prereq: Physics 271 and Math 224. Rectilinear motion; vector calculus; kinematics and kinetics of a particle; friction; vibration; impulse; momentum, work and energy; conservation laws; moving references; central force motion; systems of particles. rigid body mechanics.
- 344 ACOUSTICS (3) F
Prereq: Physics 122 and Math 224. Generation, transmission and reception of acoustic waves. Applications to selected areas of practical acoustics
- 355 FUNDAMENTALS OF ELECTRONICS (4) F
Prereq: Physics 123 (or 116 with permission). Principles of DC and AC circuit theory; diodes; bipolar and FET transistors; amplifiers; SCRs; opto-electronic devices; AM and FM modulation; transducers. Laboratory.
- 356 ANALOG AND DIGITAL ELECTRONICS (4) W
Prereq: Physics 355. Principles of operational amplifiers; active filters; logarithmic and non-linear circuits; Boolean algebra; TTL and CMOS logic gates; counters and registers; multiplexing; timing and control; A to D and D to A conversion, microprocessors and noise. Laboratory.

Physics/Astronomy

- 357 SELF-DIRECTED DIGITAL LABORATORY (2) S
Prereq: Physics 123 (or 116 with permission). Not for students who have taken Physics 356. Self-paced study in advanced digital electronics: gating, counters, decoders, multiplexers, shift registers and semiconductor memories.
- 362 OPTICS II (3) S
Prereq: Physics 221, 371 (or concurrent). Thick lenses and lens systems; stops and pupils; Seidel aberrations, coherence; diffraction; grating types; Fresnel diffraction; interferometry; polarization.
- 371 ELECTRIC AND MAGNETIC FIELDS (4) W
Prereq: Physics 123; Math 225, 331 (or concurrent). Differential representation of electric and magnetic field laws; Maxwell's equations and electromagnetic waves in free space, dielectrics and conductors, reflection and refraction at a plane boundary; guided waves; dipole radiation.
- 372 OPTICS II LABORATORY (1) F
Prereq: Physics 362.
- 375 CLASSICAL MECHANICS (3) F
Prereq: Physics 122, Math 331. Newtonian mechanics: general motion of a particle in three dimensions; the harmonic oscillator; non-inertial reference systems. Celestial mechanics: mechanics of rigid bodies; motion of rigid bodies in three dimensions. Oscillating systems.
- 381 QUANTUM PHYSICS (4) F
Prereq: Physics 123, 221 and Math 331. Concurrent enrollment in Physics 391 required for physics majors. Dual nature of radiation and matter; the Bohr atom; Schrodinger's theory applied to the square well, the harmonic oscillator and one-electron atoms.
- 382 ATOMIC AND SOLID-STATE PHYSICS (4) W
Prereq: Physics 381. Concurrent enrollment in Physics 392 required for physics majors. Quantum physics applied to multi-electron atoms, molecules and solids; spectra, structure and properties of solids.
- 383 NUCLEAR AND ELEMENTARY-PARTICLE PHYSICS (4) S
Prereq: Physics 382. Concurrent enrollment in Physics 393 required for physics majors. Structure, properties and decay of atomic nuclei; detection of nuclear radiation; nuclear reactions, introduction to elementary particles.
- 391 QUANTUM PHYSICS LABORATORY (1) F
Prereq: concurrent enrollment in Physics 381. Selected experiments in quantum physics.
- 392 ATOMIC PHYSICS LABORATORY (1) W
Prereq: concurrent enrollment in Physics 382. Selected experiments in atomic, molecular and solid-state physics.
- 393 NUCLEAR PHYSICS LABORATORY (1) S
Prereq: concurrent enrollment in Physics 383. Selected experiments in nuclear physics, including nuclear reactions using a particle accelerator.
- 403 HOLOGRAPHY (3) S
Prereq: Physics 221 and 231. Basic concepts of holography in thin and thick recording media; theory of elementary holograms and Gabor zone plates; major hologram types; interferometric holography. Laboratory.
- 405 LASERS (3) S
Prereq: Physics 221 and 382. Properties of laser light, basic laser principles, laser output and its modifications (intracavity elements, Q-switching, frequency doubling, etc.). Laser types: gas, solid, semiconductor and dye. Laser applications.
- 409 MODERN OPTICS (3) F
Prereq: Physics 352 and 382. Concurrent enrollment in Physics 485 recommended. Fourier treatment of Fraunhofer diffraction with applications to optical data processing, etc. Theory of partial coherence with applications to stellar interferometry and Fourier transform spectroscopy.
- 410 MODERN OPTICS LABORATORY (1) W
Prereq: Physics 409.
- 411 ELECTRO-OPTICS (3) W
Prereq: Physics 221, 362, 382 (or concurrent). Principles of electro- and acousto-optic modulation of laser light; beam deflection, magneto-optics; wave propagation in non-linear anisotropic media; optical second harmonic generation; theory of optical waveguides; fiber communications and sensors; radiometry; detectors; imaging devices.
- 412 ELECTRO-OPTICS LABORATORY (1) S
Prereq: Physics 355, 405 (or concurrent) 409, 411. Selected advanced experiments in electro-optics: non-linear optics, fiber optics and laser spectroscopy.
- 419 FOUNDATIONS AND PHILOSOPHY OF PHYSICS (3) S
Prereq: one year of college physics and passing grade on junior writing exam. Development of concepts from the Greek period through the 20th century. Essays and a term paper required. Writing proficiency course.

- 421, 422 QUANTUM MECHANICS (4 ea) F,W
Prereq: Physics 383, Math 225, 226. Review of Schrodinger's theory; eigenfunctions and eigenvalues; operator methods: angular momentum and spin; stationary-state and time-dependent perturbations; multi-particle systems.
- 431 SOLID STATE PHYSICS (4) W
Prereq: Physics 382. Phonons and lattice vibrations; free electron theory of metals; electrical conductivity; thermal properties; energy-band theory; diamagnetism and paramagnetism.
- 451 NUCLEAR PHYSICS (3) S
Prereq: Physics 383. Basic nuclear properties; nuclear models; interaction of radiation with matter; radioactive decay; elementary nuclear reactions.
- 471 ELECTROMAGNETIC THEORY (3) S
Prereq: Physics 371. Dielectric materials; general methods for solving Laplace's and Poisson's equations for the electrostatic potential; magnetic materials; radiation from an arbitrary distribution of charges and currents; radiation from accelerated charges; relativistic electrodynamics. Normally offered alternate years; alternates with Physics 491.
- 475 CLASSICAL DYNAMICS (3) W
Prereq: Physics 375 and Math 225 and 226. Lagrangian mechanics; perturbation techniques for dynamical systems; theory of oscillations; central forces and scattering theory.
- 479 RELATIVITY THEORY (3) S
Prereq: Physics 119 and 371. Review of special relativity. Tensor analysis and Riemannian geometry applied to the major Einstein predictions: advance of the perihelion of planetary orbits, the bending and retardation of light in a gravitational field and the Einstein red shift. Offered alternate years; alternates with Astron 416.
- 485 MATHEMATICAL METHODS OF PHYSICS I (3) F
Prereq: 15 credits in physics; Math 125. Fourier transforms with applications to physics and other relevant sciences.
- 486 MATHEMATICAL METHODS OF PHYSICS II (3) W
Prereq: 20 credits of physics; Math 225, 226 and 331. Applications of linear vector spaces, complex variables, group theory, etc.

- 491 STATISTICAL PHYSICS (3) S
Prereq: Physics 222, 382 and Math 226. Probabilistic interpretation of entropy; relationships between statistical mechanics and thermodynamics; Fermi-Dirac and Bose-Einstein statistics with applications. Offered alternate years; alternates with Physics 471.

COURSES IN ASTRONOMY

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 103 ASTRONOMY FOR THE LIBERAL ARTS (4) F,W,S
Prereq: Physics 101 or Chem 101. A survey of astronomy including the solar system, galactic structure and cosmology. Not recommended for science, math or computer science majors.
- 315 GENERAL ASTRONOMY: SOLAR SYSTEM (4) F
Prereq: Physics 114 or equivalent. Motions of the planets, satellites and other bodies of the solar system. Eclipses; time systems; properties and composition of the planets and their satellites, with particular emphasis on the discoveries of the space program. Intended for science, math and computer science majors.
- 316 GENERAL ASTRONOMY: STARS AND GALAXIES (4) W
Prereq: Physics 114. Origin, structure and evolution of stars; supernovae, pulsars and black holes. The structure of galaxies; radio galaxies and quasars. Intended for science, math and computer science majors.
- 320 COSMOLOGY (3) S
Prereq: Astron 316 (or Astron 103 and one year of college physics). Origin and evolution of the universe; curved space-time; the big bang; the expanding universe; the fate of the universe. Offered alternate years; alternates with Astron 333.
- 333 SEARCH FOR LIFE IN THE UNIVERSE (3) S
Prereq: 3 credits of college physics or astronomy. Life in and beyond the solar system; extraterrestrial intelligence and interstellar communication; radio search for extraterrestrial life; life detection experiments; problems of interstellar travel. Offered alternate years; alternates with Astron 320.
- 416 ASTROPHYSICS (3) S
Prereq: Physics 383. Application of physics to stellar systems. Radiation theory; atomic spectra and chemical abundances in stellar atmospheres; nuclear synthesis in stars; evolution of stars. Offered alternate years; alternates with Physics 479.

Political Science

Politics and government affect the lives of all of us. What we do, and what we think, is affected by the decisions and actions of state, local and national governmental institutions and political leaders. The objectives and policies of foreign countries also can affect our daily lives, particularly during periods of international tension and war.

Political science is one of the oldest fields of academic inquiry. Social ideals and their realization through law were systematically studied in ancient Greece. In an increasingly interdependent world, the study of politics and government has flourished as the relations between persons, groups and nations have become more complex, and questions of freedom and authority have challenged every citizen. Modern political science is equally concerned with questions of political philosophy and with the pursuit of social scientific research. These concerns are reflected in a broad and diverse curriculum.

The political science faculty is committed to the belief that understanding politics and government is essential to a well-educated person, vital to democratic citizenship, indispensable to effective public service, and critical to the maintenance and ethical progress of a free society.

The political science curriculum prepares students for careers in public service-related occupations in both government and business. Many students majoring in political science go on to law school, graduate school, and into the professions; many others who are not majors take political science courses as an essential part of their liberal arts education.

THE CURRICULA

The Political Science Department offers several curricula leading to the Bachelor of Arts, the Bachelor of Arts

in Education with secondary education endorsement, the Master of Arts, the Master of Arts option in public policy and administration, and the Master of Arts option in political science/environmental studies. These curricula are listed below, and their details are set forth following the list of the department faculty.

Bachelor of Arts

Major: political science.

Minors: political science, Canadian-American studies, East Asian studies.

Bachelor of Arts in Education

Major: political science for secondary education.

Master of Arts in Political Science

Master of Arts in Political Science (Public Policy and Administration)

Master of Arts in Political Science (Political Science/Environmental Studies)

POLITICAL SCIENCE FACULTY

- KENNETH R. HOOVER (1988) Chair. Professor. BSc, Beloit College. MSc, PhD, University of Wisconsin-Madison
- DONALD K. ALPER (1971) Professor. BA, MA, California State University, Long Beach; PhD, University of British Columbia.
- TODD A. DONOVAN (1991) Instructor. BA, California State University - Sacramento; MA, University of California, Riverside.
- MAURICE H. FOISY (1970) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon
- EUGENE J. HOGAN (1969) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon
- VERNON D. JOHNSON (1986) Assistant Professor. BA, Akron University. MA, PhD, Washington State University.

- RALPH E. MINER (1970) Associate Professor. BA, San Jose State College; MA, PhD, University of Oregon.
- KRISTEND. PARRIS (1991) Instructor. BA, MA, Indiana University.
- GERARD F. RUTAN (1969) Professor. BA, MA, University of Montana; PhD, University of North Carolina at Chapel Hill.
- DEBRA J. SALAZAR (1990) Associate Professor. BSc, University of California, Berkeley. MSc, PhD, University of Washington.
- SARA J. WEIR (1989) Assistant Professor. BA, MA, Ball State University; PhD, University of Washington.
- DAVID W. ZIEGLER (1967) Associate Professor. BA, Oberlin College; MA, PhD, Harvard University.

The department's faculty and staff invite questions about the program and its career potential. Persons seeking more information should visit the department in Arntzen Hall, or telephone (206) 676-3469. Written inquiries should be directed to the Department of Political Science, Western Washington University, Bellingham, Washington 98225.

BACHELOR OF ARTS

Major — Political Science

60 credits

- Pol Sci 250
- Pol Sci 260
- One of the following: Poli Sci 460, 461, 462, 463
- Additional credits selected from the four areas listed below; at least 18 credits in one area; at least 8 credits in each of two areas; and 4 credits in the remaining area. No course may be counted in more than one area. Pol Sci 101 credits apply toward the major but do not count in any area.

International and Comparative Politics: Pol Sci 270, 291, 301, 302, 303, 304, 305, 307, 308, 343, 365 or 366, 370, 376, 390, 402, 406, 411, 418a, 418b, 418c, 418d, 418e, 418g, 430, 431, 471

Political Theory: Pol Sci 360, 365, 424, 460, 461, 462, 463, 464, 465, 466, 467, 469, 480

Politics, Government and Law: Pol Sci 311, 313, 340, 343, 345, 346, 353,

365 or 366, 411, 413, 414, 415, 418h, 423, 426, 427, 429, 441, 442, 443, 446, 449, 450, 471, 475, 480, 490, 491

Public Policy and Administration: Pol Sci 320, 345, 346, 347, 350, 353, 365 or 366, 413, 414, 415, 420, 422, 423, 424, 425, 426, 427, 429, 444a,b, 468, 491

Combined Major

A combined major is possible as an option for students whose educational or professional interests may best be furthered by an integrated curriculum from two disciplines. A combined major may be fulfilled by the completion of requirements stipulated by both the Political Science Department and a department with which political science has established arrangements. A plan of study must be approved by both departments for completion of the major.

Minor — Political Science

25 credits

- Pol Sci 250
- Remaining credits from at least 2 areas

Minor — Canadian/American Studies

30 credits

Program Advisers: Dr. Donald Aiper, Dr. Gerard Rutan

See the Canadian/American Studies Program section of this catalog. A Canadian/American Studies major may be taken as a joint major with political science.

Minor — East Asian Studies

30 credits

Program Adviser: Dr. Linda Kimball

This may be added to the major for a major concentration.

See the East Asian Studies Program section of this catalog.

Combined Major — Political Science/Economics

94 credits

Program Adviser: Dr. Ralph E. Miner

Political Science

This major is available for students who have a strong interest in both of these disciplines and whose career interests lie, for example, in government or the legal profession.

- Econ 206, 207, 271, 303, 306, 307, 410
- FMDS 255
- 12 additional credits in upper-division economics courses, under departmental advisement
- Pol Sci 250; 260 or 365; 270 or 291; 360; 425
- Econ/Pol Sci 491
- A minimum of one course from each of these groups: Pol Sci 320 or 427 or 468; 345 or 346 or 347; 462 or 463 or 465
- 8-9 additional credits in upper-division political science electives, to complete the total required 94 credits of this program

BACHELOR OF ARTS IN EDUCATION

Major — Political Science

60 credits

Program Adviser: Dr. Sara J. Weir

This major/minor program meets the requirements for Washington state teaching endorsements in political science and social studies.

- Pol Sci 101, 250, 260, 270, 291, 311, 320
- 25 credits *under advisement* from the following courses: Pol Sci 343, 345, 346, 353, 360, 365, 376, 414 and 415, 420, 427, 446, 449, 450, 464, 465, 467
- Students must also complete the specific program requirements for social studies education. See the Social Studies Education Program section of this catalog.

Minor — Political Science

35 credits

- Pol Sci 101, 250, 270 or any other 400-level course (under advisement)

- Electives under departmental advisement to total 12 credits
- Soc St 426

DEPARTMENTAL HONORS

A political science major who wishes to graduate with honors in Political Science must complete: Political Science 496 with the advice of the departmental honors adviser and two years of foreign language (or a satisfactory reading knowledge of a foreign language or two years of participation in college debate). The student also must submit a senior thesis and have a grade point average of 3.50 in upper-division political science courses. Students in the University honors program also must satisfy these departmental requirements.

INTERNSHIPS

Students are encouraged to obtain internships in state, local, or national government agencies, political parties and interest groups. Credit may be obtained by prior arrangement. Up to 10 credits may be counted toward the major. The academic relevance and adequacy must be determined by the department through a written evaluative report. Prerequisite: 10 credits in political science or consent of the chair.

INDEPENDENT STUDY

Students wishing to pursue research and directed reading in areas of the discipline where they have had prior course work may apply to do independent study projects. Enrollment is with the consent of the instructor and the chair. No more than 10 credits may be counted toward the major.

GRADUATE STUDY

For concentrations leading to the Master of Arts degree, see the Graduate School section of this catalog.

COURSES IN POLITICAL SCIENCE

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 101 **GOVERNMENT AND POLITICS IN THE MODERN WORLD (5)**
Introduction to concepts of politics; types of governments, and political problems in the world today.
- 250 **THE AMERICAN POLITICAL SYSTEM (5)**
Consideration of the system and process of American politics and government with primary focus on the national level.
- 260 **POLITICAL ANALYSIS (5)**
Prereq: Pol Sci 101 or 250. An introduction to the kinds of argument and evidence used in political science. A survey of the role of values and logic, scientific method, quantitative and non-quantitative evidence, computer applications and library resources. Recommended for completion by the end of the sophomore year.
- 270 **INTRODUCTION TO INTERNATIONAL POLITICS (5)**
Prereq: Geog 201 or 205 or 209 or Hist 113 or Libr 123 or Pol Sci 101 or 291. Interaction of states and other factors in the international system in terms of basic relationships of war and peace.
- 291 **INTRODUCTION TO COMPARATIVE POLITICS (5)**
Basic structures, functions, and socio-cultural environments of foreign political systems; methods of comparative study.
- 301 **THE BRITISH PARLIAMENTARY SYSTEM (5)**
Prereq: Pol Sci 101 or 250 or 291. The British parliamentary political system: analysis of British state and political structures and functions; analysis of British political parties; examination of the British service state.
- 302 **WESTERN EUROPE (5)**
Prereq: Pol Sci 101 or 291. Governments and politics of selected western European states.
- 303 **SOVIET POLITICS (5)**
Prereq: Pol Sci 101 or 291 or equivalent. A survey of the Soviet political system: state structures, state-society relations, policy-making, foreign relations.
- 304 **LATIN AMERICA (5)**
Prereq: Pol Sci 101 or 291. Government and society in contemporary Latin America.
- 305 **INTERNATIONAL POLITICS IN THE MIDDLE EAST (4)**
Prereq: Pol Sci 101 or 270. The interplay of Zionism and Arab nationalism; the individual and collective responses of the Arab states to the creation of Israel.
- 307 **EAST ASIA (5)**
Prereq: Pol Sci 101 or 291. Survey course covering China, Japan and Korea since the mid nineteenth century. Not offered every year.
- 308 **AFRICAN POLITICAL SYSTEMS (5)**
Prereq: Pol Sci 101 or 291. Post-colonial political development in Africa focusing on ideologies and strategies for achieving legitimate government and improved living standards. Several country studies will be included to illustrate outcomes associated with different strategies for development.
- 311 **JURISPRUDENCE (5)**
Prereq: Pol Sci 250. Origin and development of basic concepts and practices of law with emphasis upon legal reasoning and values in contemporary societies.
- 313 **LAW AND SOCIETY (5)**
Prereq: Pol Sci 250. A comparative study and analysis of public policy on outstanding contemporary socio-political issues.
- 320 **PUBLIC ADMINISTRATION (5)**
Prereq: Pol Sci 250 or one course from Psych 201, Econ 207. Organizational structure and behavior, administrative processes and procedures, and individual behavior in complex public organizations
- 340 **POLITICAL PARTIES (5)**
Prereq: Pol Sci 250. The origin, development, structure, organization, and activities of political parties. Various party theories in the light of current political conditions and changing patterns of political participation and political leadership.
- 343 **POLITICAL COMMUNICATION (5)**
Prereq: Pol Sci 101 or 250. The relationship between mass media and politics; issues of law, regulation and bias; public officials and the press; the impact and role of media in election campaigns.
- 345 **WOMEN AND POLITICS (5)**
Prereq: Pol Sci 101 or 250. The history and ideas of the women's movement; investigation of the changing role of women in American politics including legal status, economic position and political behavior.
- 346 **POLITICS OF INEQUALITY (5)**
Prereq: Pol Sci 250. Survey and critique of cultural perspectives, theories and social processes supporting group subordination and inequality. Emphasizes alternative interpretations of racism, sexism and poverty.

Political Science

- 347 RACE, POLITICS AND PUBLIC POLICY (5)
Prereq: Pol Sci 250 or equivalent. The historical and political bases of contemporary racial conflict in the United States.
- 350 WASHINGTON STATE POLITICS (3)
Prereq: Pol Sci 250 or equivalent. A survey of the evolution of the public sector in the State of Washington. Examination of state political processes and institutions.
- 353 STATE AND LOCAL POLITICAL SYSTEMS (5)
Prereq: Pol Sci 250. Sub-national levels of government and intergovernmental relations; developing and administering policies for problems of race, population, pollution, crime, poverty, housing, resource depletion.
- 360 INTRODUCTION TO POLITICAL THEORY (5)
Prereq: Pol Sci 101 or 250. Major concepts of Western political theory—thematic or historical approach.
- 365 POLITICAL INQUIRY (5)
Prereq: Pol Sci 260. An examination of the contributions of science, philosophy and other inquiry systems to political knowledge and action. Explores ethical and political problems posed for inquiry by the relation between knowledge and power. Techniques for identifying and defining problems for analysis.
- 366 RESEARCH IN POLITICS (5)
Prereq: Pol Sci 260. Fundamentals of research design, including basic methods for the collection and statistical analysis of political and administrative data.
- 370 GLOBAL ISSUES IN INTERNATIONAL POLITICS (4)
Prereq: Pol Sci 270. Problems of global dimensions (population, food, resources, environment, nuclear proliferation, terrorism) and international efforts to solve them.
- 376 AMERICAN FOREIGN POLICY (5)
Prereq: Pol Sci 250 or 270. Background organization of American foreign policy; the conduct of diplomatic relations with other states; current issues and problems in foreign affairs.
- 390 THE POLITICS OF DEVELOPMENT (4)
Prereq: Pol Sci 270 or 291. Political processes in developing countries, colonialism, nationalism, alternative models of political and economic development; problems of instability, military rule, population, famine, debt and other issues confronting developing nations.
- 402 REGIONAL EUROPEAN SOCIETY AND POLITICS (4)
Prereq: Pol Sci 101 or 291. Government and society in selected countries from the Scandinavian, Alpine, Benelux and Iberian European regions.
- 406 CANADA (4)
Prereq: Pol Sci 250 or 291. Canadian social and political systems; governmental structures and functions; social, political, economic problems and foreign relations.
- 411 INTERNATIONAL LAW (4)
Prereq: Pol Sci 270. Origin, principles and problems. Not offered every year.
- 413 LAW AND PUBLIC ADMINISTRATION (4)
Prereq: Pol Sci 320 and 414. Law, organizational behavior, and the public administrative process; law in relation to agency mission, agency interests and strategies of program implementation. Not offered every year.
- 414 AMERICAN CONSTITUTIONAL LAW: NATIONAL POWERS (4)
Prereq: Pol Sci 250 and upper-division status. Supreme Court decisions interpreting major parts of the Constitution; judicial power; separation of powers; and federalism.
- 415 AMERICAN CONSTITUTIONAL LAW: INDIVIDUAL RIGHTS (4)
Prereq: Pol Sci 250, 414 and upper-division status. Supreme Court decisions interpreting major parts of the Constitution; Bill of Rights and Fourteenth Amendment.
- 418 SPECIAL PROBLEMS (2-3)
(Not offered every year.)
- 418a Seminar in International Politics (3)
Prereq: Pol Sci 270.
- 418b Contemporary Latin American Issues (3)
Prereq: Pol Sci 304.
- 418c Contemporary Issues in African Politics (3)
Prereq: Pol Sci 308 or 390 or equivalent
- 418d Seminar in East Asian Politics (3)
Prereq: Pol Sci 307 or equivalent.
- 418e Seminar in Eastern European Politics (3)
Prereq: Any 300-level comparative politics course. Selected problems in East European Politics.
- 418g Contemporary Canadian Politics (3)
- 418h Presidential Politics Workshop (2)
Prereq: Pol Sci 250 or equivalent.

- 420 **POLITICS, ADMINISTRATION, AND ENVIRONMENT (4)**
 Prereq: Pol Sci 101 or 250. History of environmental problems and their causes. The administrative and political responses to them. Contemporary difficulties in formulating and applying environmental policy. Political and administrative changes needed to meet the environmental challenge. Also offered as Envr 420.
- 422 **STAFFING THE PUBLIC BUREAUCRACY (4)**
 Prereq: Pol Sci 320. Public personnel systems: general principles and specialized aspects such as recruitment, training and employee morale. Not offered every year.
- 423 **THE AMERICAN PRESIDENCY (3)**
 Prereq: Pol Sci 250. The growth of presidential power; the institutionalized presidency, and styles of presidential leadership. The president as party leader, policy initiator, chief executive, commander-in-chief, and head of foreign relations.
- 424 **THEORY OF PUBLIC ORGANIZATIONS (4)**
 Prereq: Pol Sci 320. Organization theory as related to public organizations and the political system.
- 425 **THE POLITICS OF ECONOMIC POLICY-MAKING (4)**
 Prereq: Pol Sci 250 or equivalent and Econ 206 or 207 or equivalent. The political consequences of taxing, spending, interest rates, and of the federal reserve system and government regulation of business.
- 425 **POLITICS AND PUBLIC FINANCE (4)**
 Prereq: Pol Sci 250. The American political system and the development and maintenance of the structure of taxation and the distribution of governmental benefits.
- 427 **POLICY-MAKING AND POLICY ANALYSIS (4)**
 Prereq: Pol Sci 250. Organizational and societal policy-making, and the nature and consequences of policy for various groups and sectors of the polity; the possibility and problems of objective analysis conducted from within the boundaries of the subject political system.
- 429 **ADMINISTRATION AND DEMOCRACY (4)**
 Prereq: Pol Sci 320. Relationships of various administrative forms, processes, and behaviors to varying theoretical conceptions and empirical descriptions of democracy. Not offered every year.
- 430 **MODERN CHINESE POLITICS (4)**
 Prereq: Pol Sci 291 or equivalent. An introduction to politics and society in modern China: state structures, political culture, state-society relations, policy-making and foreign relations.
- 431 **MODERN JAPANESE POLITICS (4)**
 Prereq: Pol Sci 291 or equivalent. An introduction to the politics and society of modern Japan: governmental structures, political culture, state-society relations, policy-making and foreign relations.
- 441 **CONGRESS: PEOPLE AND POLITICS (4)**
 Prereq: Pol Sci 250. The politics and policies of the National Congress in the internal organization of the U.S. Senate and House of Representatives and in their external relations with the President, the bureaucracy, interest groups, and the voters. Not offered every year.
- 442 **INTEREST GROUP POLITICS (4)**
 Prereq: Pol Sci 250, 260, 366, or permission of instructor. Role of interest groups in American politics, origins, structures and activities of interest groups. Examination of theories of interest groups and politics in light of empirical research.
- 443 **LEGISLATIVE INTERNSHIP (5-15)**
 Prereq: permission of department. Internship in the Washington State Legislature during winter quarter; assignment is primarily as research assistant to a legislator. Enrollment limited to the number of internships allocated by the Legislature. Open only to juniors and seniors, competitively selected. No more than 10 credits of internship may be counted toward the major without the permission of the chair.
- 444a,b **ADMINISTRATIVE INTERNSHIPS (5 ea)**
 Prereq: two courses in public administration area and permission of department. Part-time internships in administrative agencies of the federal, state and local governments. Priority given to seniors. Where the number of applicants exceeds the available intern positions, competitive selections will be made. Requests for internships should be filed with the department one quarter in advance of registration for this course. No more than 10 credits of internship may be counted toward the major without the permission of the chair.

Political Science

- 446 **CURRENT PROBLEMS IN AMERICAN GOVERNMENT AND POLITICS (3)**
Prereq: upper-division status. Discussion and assessment of current changes in the laws, institutions, policies and political processes of American government. Issues and problems, drawn from scholarly journals, journals of opinion, magazines and newspapers, will provide focus. This course will study current changes and contemporary issues and problems from both a scholarly and journalistic perspective.
- 449 **POLITICS AND SOCIAL CHANGE (4)**
Prereq: Pol Sci 101 or 250. Theories linking social change and politics. The role of ideas and ideology, mass movements, political institutions, social disruption and violence in causing and directing change.
- 450 **POLITICS, CAMPAIGNS AND ELECTIONS (4)**
Prereq: Pol Sci 250. Voters and voting behavior, candidates and campaign strategy; the resources of politics—workers, money, and mass media. Not offered every year.
- 460 **CLASSICAL POLITICAL THOUGHT (4)**
Prereq: Hist 111 or Lbrl 121 or Pol Sci 360 or equivalent. Origin and evolution of major concepts in Western political thought from the ancients to the Renaissance.
- 461 **POLITICAL THEORY: RENAISSANCE AND MODERN (4)**
Prereq: Hist 112 or Lbrl 121 or Pol Sci 360 or equivalent. The development of major concepts in the classical liberal tradition—and the critique of that tradition by communitarians and conservatives. The Renaissance to the Moderns.
- 462 **THE RISE OF MODERN POLITICAL ECONOMY (4)**
Prereq: Pol Sci 360 or Hist 113 or Econ 206 or 207 or equivalent. The development of modern conceptions of politics and the economy beginning with the classical political economists of the 18th century through 20th century developments.
- 463 **AMERICAN POLITICAL THOUGHT (4)**
Prereq: Pol Sci 360 or Hist 103 or 104 or equivalent. Major concepts in American political thought from the Colonial period to the present.
- 464 **CONTEMPORARY POLITICAL THEORY (4)**
Prereq: Pol Sci 360 or any 400-level political theory course. Contemporary developments, with emphasis on Continental political theory. May also include other contemporary contributions, such as feminist theory and neo-pragmatism.
- 465 **THEORIES OF DEMOCRACY (4)**
Prereq: Pol Sci 360. Survey and analysis of theories of democracy, from ancient to modern. Normative and empirical theories with emphasis on contemporary theory and research findings. Not offered every year.
- 466 **SYSTEMS THINKING, GOVERNMENT AND ENVIRONMENT (4)**
Prereq: Pol Sci 101 or 360. Systems thinking as an emerging world-view. Origins in biology, neurology, operational research, cybernetics, ecology, etc. Applications to environmental control and political process. The promise and dangers of an "information society." Also offered as Envr 466.
- 467 **POLITICS, TRANSFORMATION AND ENVIRONMENT (4)**
Prereq: Pol Sci 101 or 250. Incompatibility between the growth-oriented goals of contemporary political cultures and environmentally-derived "steady state" imperatives. The politics of transformation and value-change. Also offered as Envr 467.
- 468 **POLITICAL ECONOMY OF NATURAL RESOURCES (4)**
Prereq: Pol Sci 260; Econ 206; or permission. The role of political/economics institutions in regulating the exploitation of natural resources; how politics define and modify property arrangements; how economies allocate natural resources within the context of property rules.
- 469 **FEMINIST POLITICAL THEORY (4)**
Prereq: Pol Sci 360 or any 400-level political theory course. Early feminists to contemporary theoretical critiques and contributions. Topics such as feminist conceptions of philosophy of science, eco-feminism and post-modernism. Not offered every year.
- 471 **STATE POLICY, ESPIONAGE, AND INTELLIGENCE UTILIZATION (4)**
Prereq: permission of instructor.
- 475 **POLITICS AND INFORMATION (4)**
Prereq: Pol Sci 250 or 270 or 320. How policy-makers gather, evaluate and use information; special attention to public policy, the judicial system and foreign policy.
- 480 **POLITICS, GOVERNMENT AND RELIGION (4)**
Prereq: permission of instructor. How political activity and government structures relate to religious perceptions and organizations. Not offered every year.

- 490 SENIOR SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (4)
Prereq: senior status, political science majors only, except with permission. Advanced analysis and evaluation of American politics and government. Emphasizes contemporary theory and approaches in the literature.
- 491 ISSUES IN POLITICAL ECONOMY (4)
Prereq: senior status in the Pol Sci/Econ combined major or a Pol Sci major and Econ minor. Discussion and analysis of selected issues of significant political and economic content. Also offered as Econ 491.
- 496a,b,c HONORS TUTORIAL (2-5 ea)

- 521 SEMINAR IN PUBLIC POLICY ANALYSIS (3)
Advanced problems in public policy and analysis.
- 523 SEMINAR IN POLITICS AND PUBLIC FINANCE (3)
Advanced problems in politics and public finance.
- 524 ENVIRONMENTAL POLITICS AND POLICY (3)
Survey of the field of environmental politics and policy. Examination of how political scientists have addressed environmental issues by focusing on questions raised, methods used and conclusions reached. Approach will be comparative in examining research on different countries and examining environmental political research as it has addressed issues related to race, class and gender. Also offered as Envr 524.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 POLITICAL SCIENCE AS A DISCIPLINE (5)
Study of political science as an academic field; description and critique of subfields; trends and challenges.
- 502 RESEARCH TECHNIQUES IN POLITICAL SCIENCE (5)
- 503 PUBLIC POLICY AND ADMINISTRATION (5)
Consideration of current and emerging problems facing public organizations.
- 505 SEMINAR IN COMPARATIVE GOVERNMENT AND POLITICS (5)
Principles of government and politics in existing and developing states.
- 506a,b ADVANCED TOPICS IN COMPARATIVE GOVERNMENT AND POLITICS (5 ea)
Prereq: permission of instructor and graduate adviser. Advanced comparative consideration of the political systems of selected nation-states.
- 510 SEMINAR IN PUBLIC LAW (5)
The tradition and emerging trends.
- 520 SEMINAR IN PUBLIC ORGANIZATIONAL THEORY (3)
Organizational theory and practice in public settings.
- 525 SEMINAR IN MODERN POLITICAL ECONOMY (3)
Prereq: permission of instructor. Consideration of contemporary theories of political economy; the political aspects of resource allocation and the politics of the distribution of governmental benefits and burdens. Consideration is also given to various exchange theories of collective decision making in democratic systems.
- 528a,b SPECIAL PROBLEMS IN PUBLIC POLICY AND ADMINISTRATION (1-5)
Prereq: permission of instructor and graduate adviser. The consideration of special problems and the conduct of independent study under the guidance and supervision of a member of the faculty.
- 540 SEMINAR IN THE POLITICAL PROCESS (5)
The influence of organizations and individuals in the formation of public policy. Includes study of the role of beliefs in the political process.
- 542a,b PUBLIC SERVICE INTERNSHIP (5 ea)
Prereq: Pol Sci 501, 503 and permission of department. Work as research and management assistant with a local, state or federal government body (executive, legislative or judiciary), political party, interest group or private, non-profit organization. Work-load: 15 hours/week for 5 credits and 30 hours/week for 10 credits. (Repeatable to a maximum of 10 credits)
- 550 SEMINAR IN STATE AND LOCAL GOVERNMENT (3)
Problems at sub-national levels, both American and other, internally and in relation to national levels.

Political Science

560a.b SEMINAR IN POLITICAL THEORY
(5 ea)

Function and history of political theory;
the crisis in traditional theory; emerging
trends.

570a.b SPECIAL PROBLEMS IN POLITICAL
SCIENCE (1-5)

Prereq: permission of instructor and grad-
uate adviser. The consideration of special
problems and the conduct of independent
study under the guidance and supervision
of a faculty member.

690 THESIS/THESIS RESEARCH (1-9)



Psychology

College of Arts and Sciences

Most of the major problems facing the people of the world today — hunger, overpopulation, the continuing threat of war, prejudice, pollution, drug addiction — are people problems; people have created them and it will be people who must and will find solutions to them. Psychology, as the scientific study of mind and behavior, will help provide the answers to many of these pressing problems.

Psychology's attempt to understand the human condition takes many approaches. Some psychologists study brain chemistry and its relation to behavior, while others study the behavior of individuals in groups (for example, in a religious cult). Still others are engaged in providing counseling or psychotherapy to people who are mentally ill or who are having difficulty in coping with the demands of life. With a faculty of 26 men and women, all of whom hold a doctoral degree, the department is able to offer a program of study which provides a solid foundation in the general concepts and methods of psychology, as well as courses and programs for students in many of the more specialized areas of this large and exciting field.

The Department of Psychology has limited the number of credits required for a major in psychology so that students may develop minors or a second major in another department. The core program in general psychology is designed to insure that all majors will develop a sound basic background in psychology which will provide effective preparation for advanced study as well as contribute significantly to a liberal education. Since the number of required courses is relatively small, students can complete the major from a variety of course offerings under advisement. Concentrations of elective courses have been designed to guide stu-

dents who wish to complete their requirements beyond the core program by following a prescribed program of studies in the following areas: awareness and reasoning, biopsychology, human development, humanistic psychology, industrial/organizational psychology, mental health, and social psychology. The requirements for the major in psychology can be completed by following one of the concentrations or by developing an individualized program of study with faculty advisement.

A very important kind of learning takes place when students become personally involved in psychological research. Students are encouraged to become active participants in their own research projects, or to cooperate with a faculty member in his or her ongoing research. It is also recommended that students seek participation in one of the off-campus field experiences which are available.

In addition to its undergraduate offerings, the department offers the M.S. degree in general psychology. There are also specialized concentrations in clinical/counseling psychology, measurement, evaluation and statistical analysis and behavioral toxicology (with Huxley College of Environmental Studies). The department also offers an M.Ed. in school counseling psychology. Complete descriptions of the master's program are included in the Graduate section of this catalog.

PSYCHOLOGY FACULTY

- RONALD A. KLEINKNECHT (1970) Chair.
Professor. BA, MS, PhD, Washington State University
- STEPHEN L. CARMEAN (1964) Professor. BA, MA, PhD, University of Illinois.
- LOWELL T. CROW (1968) Professor. BS, MA, University of South Carolina; PhD, University of Illinois.

Psychology

- GEORGE T. CVETKOVICH (1969) Professor. BA, Youngstown State University; MA, Akron State University; PhD, Kansas State University.
- DALE L. DINNELL (1986) Associate Professor. BS, MAT, MA, PhD, University of Nebraska.
- PETER J. ELICH (1961) Professor and Dean of College of Arts and Sciences. BA, University of Washington; MEd, Western Washington State College; PhD, University of Oregon.
- FREDERICK W. GROTE, JR. (1970) Associate Professor. AB, Dartmouth College; PhD, University of North Carolina.
- DAVIS C. HAYDEN (1986) Associate Professor. BA, MA, PhD, University of California.
- SUSANNA A. HAYES (1990) Associate Professor. MS, Loyola University; MEd, University of Arizona; PhD, University of Michigan.
- B. L. KINTZ (1965) Professor. BA, MA, PhD, University of Iowa.
- ARLEEN C. LEWIS (1987) Associate Professor. BA, Utah State University; PhD, University of Nebraska.
- LOUIS G. LIPPMAN (1966) Professor. BA, Stanford University; MA, PhD, Michigan State University.
- MARCIA Z. LIPPMAN (1969) Associate Professor. BA, MA, Michigan State University; PhD, University of British Columbia.
- WALTER J. LONNER (1968) Professor. BA, MA, University of Montana; PhD, University of Minnesota.
- ROBERT D. MEADE (1965) Professor. BA, Indiana University; MA, PhD, University of Pennsylvania.
- LAURENCE P. MILLER (1968) Professor. BA, University of California, Los Angeles; MA, San Fernando Valley State College; PhD, Ohio State University.
- DAVID M. PANEK (1965) Associate Professor. BA, Beloit College; MS, University of Wisconsin; PhD, Washington State University.
- MERLE M. PRIM (1969) Associate Professor. BA, University of Washington; MS, San Diego State College; PhD, Washington State University.
- EARL R. REES (1970) Associate Professor. BA, Southern Illinois University; MA, PhD, Brown University.
- RONALD W. SHAFFER (1970) Associate Professor. BA, California State College, Los Angeles; MA, PhD, University of New Mexico.
- DAVID SUE (1985) Professor. BS, University of Oregon; MS, PhD, Washington State University.
- CHRISTOPHER J. TAYLOR (1968) Professor. AB, Wittenberg University; MS, PhD, Ohio University.
- SAUNDRA J. TAYLOR (1968) Associate Professor and Vice President for Student Affairs. BA, DePauw University; MA, Bowling Green State University; PhD, Ohio University.
- RICHARD W. THOMPSON (1967) Professor. BA, MA, PhD, Michigan State University.

ROBERT M. THORNDIKE (1970) Professor. BA, Wesleyan University; PhD, University of Minnesota.

JOSEPH E. TRIMBLE (1978) Professor. BA, Waynesburg College; MA, University of New Hampshire; PhD, University of Oklahoma.

VERNON O. TYLER, JR. (1965) Associate Professor. BS, University of Washington; MA, University of Iowa; PhD, University of Nebraska.

DECLARATION OF MAJOR

Students wishing to declare a major in psychology must: (a) have completed at least 75 credits; (b) completed at least 25 credits in psychology including Psych 306*; and (c) achieved a WWU all-college GPA of 2.50 or higher. A GPA of 3.0 for at least 25 credits of Psychology (including Psych 306) may substitute for the 2.50 WWU all-college GPA.

**Students enrolled in Psych 306 who will have completed the other requirements for admission to the major at the end of that quarter may apply for admission to the psychology major and register for Psych 307. Admission to the major and continuing enrollment in Psych 307 will be contingent on successful completion of Psych 306.*

BACHELOR OF ARTS

Major — Psychology

60 credits

The psychology major consists of a 45-credit core and 15 elective credits in psychology.

Core required courses:

- Psych 201, 306, 307
- Two courses from Psych 311-316
- Two courses from Psych 321-326
- One course from Psych 402-403
- One course from Psych 404-406
- One course from Psych 411-412
- 15 elective credits in psychology; consult your adviser in psychology for assistance in selecting your elective courses

Elective Concentrations

The core program of required courses is designed to insure a solid background in general psychology.

The requirements for the B.A. in psychology can be met by the 45 credit core program and any 15 credits in psychology. It should be noted that while some of the courses in the 45 required credits are specific (e.g. Psych 201, 306 and 307), others may be met from a series of choices. It is often useful for students to consult faculty advisers in consideration of these choices as well as the elective 15 credits. Personal interests as well as professional expectations also should be considered, and several concentrations of elective courses have been developed as guides for students in making these selections.

General: Advisers — R. Thompson, S. Carmean, R. Meade, L. Miller

Students who wish to maximize breadth of study in psychology are advised to select their electives according to the following program:

- At least one course from each of the following pairs: Psych 311, 312; 313, 314; 315, 316; 321, 322; 323, 324; 325, 326
- Two courses from both of the following groups: Psych 402-403, 404-406

Awareness and Reasoning: Advisers — R. Shaffer, R. Rees, L. Miller, S. Carmean

- Core program to include Psych 324 and 405
- Psych 342 and 344

Biopsychology: Advisers — L. Crow, M. Prim, R. Thompson

- Core program to include: Psych 312, 316, 325, 326, 403, 406
- Electives from Psych 321-324, 335
- Suggested biology courses in addition to the major: Biol 212, 348, 349, 370, 403, 408, 424, 465, 490

Human Development: Advisers — F. Grote and M. Lippman

- Core program in psychology to include Psych 316 and 403; two of the following: Psych 353, 355, 357, 456a, 456b, 456c, 456d

- Electives under advisement

Humanistic-Phenomenological Psychology: Adviser — R. Shaffer

- Core program to include: Psych 313, 314, 322, 324, 402 or 403, 404
- Psych 343, 347, 418
- Electives from Psych 344, 346, 357 and additional credits under advisement

Industrial/Organizational Psychology: Advisers — C. Taylor and B. L. Kintz

- Core program to include Psych 311 or 313, 315, 321, 322 or 324
- Psych 320 and 420
- Electives under advisement

Mental Health Services: Advisers — D. Panek, D. Sue and V. Tyler

- Core program to include: Psych 313, 314, and one course from 311, 312, 315, 316
- Psych 402, 431, 432
- Two quarters of Psych 449

Social Psychology: Adviser — G. Cvetkovich

- Core program to include Psych 315, 403
- Two of the following: Psych 420, 440, 441

See the Sociology Department section of this catalog for related course offerings.

Students who are planning to pursue graduate study in psychology are advised to take a supporting sequence of 15 credits (beyond the 101 survey course) in biology, chemistry, mathematics or physics.

Minor — Psychology

24 credits

- Psych 201
- One course from Psych 311-316
- One course from Psych 321-326
- Electives under advisement (Psych 306, 307 are recommended)

Minor — Sport Psychology

30-32 credits

This interdisciplinary program is designed to introduce the student to the discipline of sport psychology. More specifically, it emphasizes the educational and behavioral approaches to sport psychology and introduces students to psychometric and clinical techniques which are an integral part of this discipline.

- Psych 201, 311 or 315; PE 307, 309, 310
- PE 408 (to be taken after all courses in the minor are completed)
- Select a minimum of two courses under advisement from Psych 306, 311, 313, 315, 316, 321, 322, 324, 342, 353
- Physical education majors cannot use PE 307, 309, 310 for both major and minor requirements and must select replacement courses from psychology electives.

BACHELOR OF ARTS IN EDUCATION

Major — Elementary — Human Development

49-52 credits

Adviser — F. Grote

- Psych 201
- Psych 306 and 307
- Either Psych 316 or Psych 352
- Either Psych 321 or Psych 351
- One course from Psych 311-315
- One course from Psych 322-326
- Either Psych 402 or 403
- One course from Psych 404, 405, or 406
- Two courses from Psych 353, 355 or 456
- Psych 411 or Psych 412

Major — Psychology — Secondary

60 credits

Prospective secondary teachers are advised to complete the core pro-

gram in psychology as outlined under the Bachelor of Arts curriculum, plus electives under advisement from Dr. L. Miller.

Students also must complete the specific program requirements for social studies education. See the Social Studies Education Program section of this catalog. Completion of this program leads to a teaching endorsement in psychology and social studies at the secondary level.

Minor — Psychology

24 credits

- Psych 201
- One course from Psych 311-316
- One course from Psych 321-326
- Electives under advisement (Psych 306, 307 are recommended)

DEPARTMENTAL HONORS

Advisers — S. Carnean

In addition to the general requirements for all University honors program students, a psychology major who wishes to graduate with honors will develop a program of studies with the department honors adviser, complete Psychology 425 and prepare a thesis which will be defended before a faculty committee.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the Graduate School section of this catalog.

COURSES IN PSYCHOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

Courses in educational psychology include Psych 316, 351, 352, 353, 451. Psych 451 is not applicable to the Arts and Sciences major or minor. Note that credit may not be earned for both Psych 321 and 351 or 316 and 352.

201 INTRODUCTION TO PSYCHOLOGY (5)

Examination of basic psychological processes utilizing results of research investigations: participation in at least two experiments or equivalent activities.

217 PSYCHOLOGY OF HUMAN SEXUALITY (3)

Human sexual behavior, attitudes, customs, practices and relationships, from historical to present times; sex research; sexual communication and miscommunication; and treatment for sex problems will be emphasized. Reproduction and physical aspects will be considered insofar as they are basic to the psychology of sex.

219 PSYCHOLOGY OF SEX ROLES (4)

Basic concepts, foundations for sex roles; similarities and differences between the sexes; historical customs, personality theories, cultural, sub-cultural and cross-cultural perspectives.

306 EXPERIMENTAL PSYCHOLOGY AND STATISTICS I (5)

Prereq: Psych 201. Introduction to experimental methodology in psychology and statistical treatment of results. Lectures and laboratory.

PSYCH 307 is open only to students who have been admitted to psychology as a major.

307 EXPERIMENTAL PSYCHOLOGY AND STATISTICS II (5)

Prereq: Psych 306 and admission to the major. Design and conduct of psychological research investigations and statistical treatment of results; individual research project; lectures and laboratory.

311 PSYCHOLOGICAL TESTS AND MEASUREMENT (5)

Prereq: Psych 201, 306 or permission. Philosophy, history and development of psychological measurement. Reliability, validity, standardization and norms; tests of intelligence, special abilities, personality, interests and values. Students will review non-restricted instruments of various types in small groups.

312 PSYCHOLOGY OF INDIVIDUAL DIFFERENCES (5)

Prereq: Psych 201, 306 or permission. Research strategies, correlational procedures and inferential processes. The nature-nurture question. Elements of genetics, heredity and behavior genetics. Dimensions of differences in intelligence by race, social class, age and sex. The effect of cultural influences on intelligence.

313 PERSONALITY (5)

Prereq: Psych 201. An examination of the major approaches to personality development, research and application.

314 ABNORMAL PSYCHOLOGY (5)

Prereq: Psych 201. Human behavior patterns culturally labeled as abnormalities, or as mental illness: their etiology, incidence, treatment, and social attitudes toward such patterns. Historical review of the concepts used to explain such behavior and of the research relating to the treatment of psychoses and neuroses.

315 SOCIAL PSYCHOLOGY (5)

Prereq: Psych 201. Socialization (moral development, racial, ethnic and class differences), attitudes and attitude change, conformity, interpersonal attraction. Theories and methods of social psychology stressing applicability of social psychological research and knowledge to contemporary social problems.

316 DEVELOPMENTAL PSYCHOLOGY (5)

Prereq: Psych 201. Basic principles of development. Topics include behavior genetics, early experience, language, cognition, personality, and social development. Students cannot earn credit for both Psych 316 and 352. May be substituted for Psych 352 in the teacher education program.

318 PSYCHOLOGY AND CULTURE (3)

Prereq: Psych 201. Cultural and ecological factors and their effect on perception, thinking, language, intelligence, sexuality, and other psychological variables. An examination of the "universality" of traditional Euro-American psychological theories.

320 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (4)

Prereq: Psych 201. Application of psychological principles to industrial problems of personnel selection and appraisal, human relations, marketing, training, and engineering psychology.

321 LEARNING (5)

Prereq: Psych 201. A survey of the major principles of learning, memory and cognition. May be substituted for Psych 351 for teacher certification. Students cannot earn credit for both Psych 321 and 351.

322 MOTIVATION (5)

Prereq: Psych 201. Theoretical and empirical study of human and subhuman motivational process. Topics covered range from basic physiological drives to achievement motivation and conformity. Emphasis on both biological and social sources of motivation.

Psychology

- 323 **SENSORY PROCESSES (5)**
Prereq: Psych 201. The mechanisms by which man and lower animals process information through various sensory modalities. The adaptive significance of sensory processes.
- 324 **PERCEPTION (5)**
Prereq: Psych 201. Classical and contemporary descriptions of human perceptual behavior; specific perceptual phenomena such as perceptual constancies, perception of intersensory stimuli, creativity, and levels of awareness. Examples are drawn from music, art, verbal and nonverbal communication.
- 325 **COMPARATIVE PSYCHOLOGY (5)**
Prereq: Psych 201. Phylogenic comparison of animal behavior, learning, motivation and sensory processes in selected species of animals.
- 326 **PHYSIOLOGICAL PSYCHOLOGY (5)**
Prereq: Psych 201. The biological foundations of behavior.
- 327 **LABORATORY IN PHYSIOLOGICAL PSYCHOLOGY (3)**
Prereq: concurrent with Psych 326; Psych 306 or concurrent. Biology 101 recommended. Introduction to methods and techniques used to understand basic psychobiology. Emphasis in on understanding basic fundamentals, and laboratory experience of electrophysiology as applied to the study of crayfish biology and behavior. All day Saturday labs. Live animal research required.
- 335 **SOCIAL BEHAVIOR IN ANIMALS (4)**
Prereq: Psych 201. Comparative social behavior, aggression, altruism, variability and adaptive strategies. Normally offered alternate years.
- 342 **THINKING AND IMAGINATION (4)**
Prereq: Psych 201. Discussions and/or demonstrations of logical and intuitive thinking, creativity, symbolism and fantasy. Consideration of the relationships of patterns of thinking and brain activity and of the implications of differences in cognitive style.
- 343 **PHENOMENOLOGY (5)**
Prereq: Psych 201. An introduction to phenomenology as an alternative method for psychological research and understanding. Works by Husserl, Heidegger, Levinas and Merleau-Ponty are examined, and students participate in research projects that emphasize the phenomenological approach to psychology.
- 344 **CONSCIOUSNESS AND ITS ALTERNATE STATES (3)**
Prereq: Psych 201. Research and theory concerned with various "states" of consciousness; sleeping and dreaming, hypnosis, effects of psychoactive drugs, meditation and lateralization of function in the cerebral hemispheres.
- 347 **HUMANISTIC PSYCHOLOGY (5)**
Prereq: Psych 313. Course will review the personality theories, practices and research generated by the contemporary humanistic view of man. Some work of such leaders in this third force of psychology as Adler, Allport, May, Maslow, Rogers, Frankl and Fromm.
- 349 **PSYCHOLOGY AND THE ARTS (3)**
Prereq: Psych 201. Concepts from a wide variety of areas in psychology are used to analyze issues in art. Specific works of art—which may include literature, music, and visual arts—are considered through class discussion and written essay.
- 351 **PSYCHOLOGY OF HUMAN LEARNING, COGNITION, AND INSTRUCTION (4)**
Prereq: Psych 201; not open to those with credit in Psych 321. Psychological principles of learning and cognition and their application to classroom teaching. Students cannot earn credit for both Psych 321 and 351.
- 352 **CHILD DEVELOPMENT AND EDUCATION (4)**
Prereq: Psych 351 or concurrent. Basic principles of development, with special attention to the pre-school and elementary school age child. Students cannot earn credit for both Psych 316 and 352.
- 353 **ADOLESCENT PSYCHOLOGY (4)**
Prereq: Psych 201 or 351. Basic principles of development with special attention to the secondary school age child; implications for educational practices.
- 355 **PSYCHOLOGY OF CHILD REARING (3)**
Prereq: Psych 201. Discipline at different developmental stages; parental influences on social and cognitive development; influences on parenting; a systems approach to understanding families; the changing American family.
- 357 **ADULT DEVELOPMENT AND AGING (4)**
Prereq: Psych 201. Development during adulthood, aging and the life-span perspective on development; biology and aging; perception, learning, and memory; intelligence and problem-solving ability; personality and aging — crisis and challenge at different life stages; careers; psychopathology; and death and dying.

- 360 **HEALTH PSYCHOLOGY (2)**
 Prereq: Psych 201. Surveys psychological processes affecting physical health and illness and explores the role of psychologists within the health care system. Included are: psychophysiological relationships, effects of stress on health, preventive health behaviors, coronary-prone behavior patterns (Type A), psychological processes in medical treatment and psychological treatments of physical disorders. Summer only.
- 362 **PSYCHOLOGY OF FEAR (2)**
 Prereq: Psych 201 or equivalent. Emotional and behavioral components and effects of fear, anxiety and phobias. Diagnosis assessment and treatment of anxiety disorders. Summer only.
- 402 **SEMINAR IN PERSONALITY AND ABNORMAL PSYCHOLOGY (3)**
 Prereq: Psych 307 and 313 or 314. Major issues and methods in the study of personality and abnormal psychology. Laboratory and library research.
- 403 **SEMINAR IN SOCIAL AND DEVELOPMENTAL PSYCHOLOGY (3)**
 Prereq: Psych 307 and 315 or 316. Major issues and methods in the study of social and developmental psychology. Laboratory and library research.
- 404 **SEMINAR IN LEARNING AND MOTIVATION (3)**
 Prereq: Psych 307 and 321 or 322. Major issues and methods in the study of learning and motivation. Laboratory and library research.
- 405 **SEMINAR IN SENSORY, PERCEPTUAL AND THOUGHT PROCESSES (3)**
 Prereq: Psych 307 and 323, 324 or 342. Major issues and methods in the study of perception and sensation. Laboratory and library research.
- 406 **SEMINAR IN COMPARATIVE AND PHYSIOLOGICAL PSYCHOLOGY (3)**
 Prereq: Psych 307 and 325 or 326. Major issues and methods in the study of comparative and physiological psychology. Laboratory and library research.
- 407 **LABORATORY IN COMPARATIVE AND PHYSIOLOGICAL PSYCHOLOGY (3)**
 Prereq: concurrent with Psych 406; Psych 327; Psych 307 or concurrent. Biol 101 recommended. Laboratory-based study of integrated neural systems in terms of electrophysiology and behavior. All-day Saturday labs required. Live animal research required.
- 411 **SEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY (4)**
 Prereq: junior status. An historical perspective of the development of psychological systems and theories and the impact of these developments on contemporary psychology.
- 412 **SEMINAR IN PSYCHOLOGICAL THEORY (4)**
 Prereq: junior status and written permission of instructor. A seminar examining the philosophical assumptions of science in general and psychology in particular.
- 418 **SEMINAR IN HUMANISTIC PSYCHOLOGY (3)**
 Prereq: Psych 307 and 347. Major issues and methods in the study of existential phenomenology, ontology and hermeneutics. Laboratory and research.
- 420 **ADVANCED INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY (5)**
 Prereq: Psych 306, 320 and written permission of instructor. Psychological theories, methodology and findings related to the problem of business and industry, lectures, and laboratory.
- 425 **HONORS SEMINAR (3)**
 Prereq: permission of instructor. Intensive examination of selected problems in psychology.
- 426 **HONORS THESIS SEMINAR (2)**
 Prereq: permission of instructor. In-depth investigation of a selected topic in psychology culminating in an honors thesis. Should be taken the quarter before the thesis is begun and while it is in progress. Repeatable up to 6 credits. S/U grading.
- 431 **INTRODUCTION TO SCHOOL AND COMMUNITY COUNSELING (4)**
 Prereq: declared major in psychology and Psych 306, 313 or 314. Overview of professional counseling in schools, colleges and communities. Includes counselor roles, ethics, counseling theories and techniques, training and licensing, counseling minorities, outreach, use of paraprofessionals and research.
- 432 **INTERVIEWING THEORY AND PRACTICE (4)**
 Prereq: written permission of instructor. Skills and underlying psychological principles which facilitate communication — particularly the helping interview. Lecture, demonstration, role playing and videotape feedback, with special emphasis on listening skills and assessing one's impact on others.

Psychology

- 440 ENVIRONMENTAL PSYCHOLOGY (3)
Prereq: Psych 306, 315 or permission of instructor. Theoretical, methodological and empirical problems and issues relating to behavior in constructed and natural environments.
- 441 SEMINAR IN CROSS CULTURAL PSYCHOLOGY (3)
Prereq: Psych 306 and written permission of instructor. Theoretical and methodological problems and issues relating to cross-cultural research in psychology. Normally offered alternate years.
- 449 FIELD EXPERIENCES IN PSYCHOLOGY (5)
Prereq: 20 credits in psychology (students in the mental health concentration must have Psych 431 and 432, and written permission of instructor). Mental health, child development, behavior problems of adolescence, and other relevant topics. Field work combined with readings and seminars. This course may be taken two times for credit only by students in the psychology mental health services concentration. All other students are limited to one quarter credit.
- 451 SCHOOL MOTIVATION (5)
Prereq: Psych 201 or 351. To acquaint teachers and prospective teachers with principles of human motivation as they apply to the school and learning environment. To develop skills in the teacher for promoting individual and group motivation. Does not count for credit for a psychology major or minor.
- 456 ADVANCED TOPICS IN DEVELOPMENTAL PSYCHOLOGY (3)
Prereq: Psych 306 and 316. Topics vary and include: cognitive development; personality and social development; psycholinguistics; and youth and social issues. Check the Timetable of Classes to determine which topic is covered in a given quarter. Repeatable for credit.
- 501 PERCEIVING, KNOWING AND ACTING (4)
Prereq: admission to the M.S. or M.Ed. in psychology program. Considerations of the active organism in relation to a complex environment. Encompasses the concept of organization on several levels, such as physiological structure/function, perceptual ordering and changes in behavior. Draws on both reductionistic and holistic methods, theory and data. Diverse topics will be used to develop these themes.
- 502 PERSONALITY AND PSYCHOPATHOLOGY (4)
Prereq: admission to the M.S. or M.Ed. in psychology program. Consideration of major theoretical perspectives on human personality and psychopathology to include psychoanalytic and neoanalytic, cognitive social learning, biomedical and humanistic perspectives. Current research into diagnostic classification, etiology, description, diagnosis and treatment of behavioral and mental disorders will be covered. The overall orientation of this course will be to seek integration of cultural, social, psychological and physiological processes into resultant patterns of personal, social and behavioral maladaptation.
- 503 SYSTEMS OF PSYCHOLOGY (4)
Prereq: admission to the M.S. or M.Ed. in psychology program. Provides the student with a basic understanding of the processes of science including theory construction, scientific explanation, operationalism, etc. Provides the student with an historical perspective for modern psychology by examining various systems which have preceded current views (for example, gestalt psychology, behaviorism, psychoanalysis).
- 504 LIFE SPAN AND SOCIAL PSYCHOLOGICAL DEVELOPMENT (4)
Prereq: admission to the M.S. or M.Ed. in psychology or permission of the instructor. An overview of the major theories and principles in developmental and social psychology. Theories, issues and principles are highlighted through an analysis of various topics across the lifespan and as they affect the psychological development of the individual.
- 508 CONTEMPORARY PSYCHOLOGY (2)
Prereq: admission to the M.S. or M.Ed. in psychology. A review of psychology as a profession, current research activities, thesis development and related legal and ethical considerations. S/U grading.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Graduate courses in psychology (500 level and above) are open only to graduate students in psychology. Graduate students in other departments may enroll in psychology graduate courses if they obtain the permission of the instructor and department chairman. See the Graduate School section of this catalog.

- 510 **COMPUTERIZED DATA ANALYSIS (2)**
 Prereq: admission to M.S. program or permission of instructor. Applications of computers to data entry methods and statistical packages for data analysis. Use of computer packages to "clean" data for analysis. S/U grading.
- 511 **FUNDAMENTALS OF PSYCHOLOGICAL TESTING (2)**
 Prereq: admission to M.S. program and Psych 306 or equivalent. Principles of psychological measurement, including assessment of the reliability and validity of tests, methods of test construction and scale development, use of norms for interpretation.
- 512 **RESEARCH DESIGN AND ANALYSIS (4)**
 Prereq: Psych 511. Topics in the bivariate distribution are covered and the basic linear regression model is introduced. Basic topics in research design and data analysis are covered. Those ANOVA designs that represent a large portion of published research are studied. The theoretical and mathematical issues that are of concern to the modern researcher are covered. Computer examples of data analyses using SPSS or other statistical packages are used to provide practical experience with analysis problems and the interpretation of interactions.
- 513 **COMPUTER APPLICATIONS AND DATA ANALYSIS (3)**
 Prereq: Psych 512. Multiple regression analysis and factor analysis are compared and studied in detail. Practice data are analyzed using SPSS. The various strengths and weaknesses involved in the multivariate analyses are covered. Students develop a broad and solid understanding of why these designs are used and how the results are of value to researchers and practitioners alike. Advanced analysis of variance and covariance designs are also covered.
- 514 **TOPICS IN QUANTITATIVE PSYCHOLOGY (1-6)**
 Prereq: Psych 515 or 516 or permission of instructor. Specific content of course to be arranged by agreement of instructor and students. Examples of appropriate content would be: computer applications in psychological research; mathematical models of behavior; statistical consulting. Repeatable to 6 credits. S/U grading.
- 515 **MULTIVARIATE ANALYSIS (3)**
 Prereq: Psych 513. Topics in advanced multivariate analysis including canonical analysis, discriminant functions analysis, cluster analysis and factor analysis. Logical and geometric properties of multivariate techniques and interpretation on research results are stressed.
- 516 **ADVANCED RESEARCH AND EVALUATION DESIGN AND DATA ANALYSIS (3)**
 Prereq: Psych 513. Multivariable designs, multiple interaction analysis, computer programs and operation. Research designs that involve several criterion measures.
- 518 **INSTRUMENTATION FOR PSYCHOLOGICAL RESEARCH (2)**
 Prereq: admission to the M.S. or M.Ed. in psychology program. Typical technological solutions to problems encountered in original research; lecture and laboratory.
- 519 **CONSTRUCTION OF PSYCHOLOGICAL MEASURING DEVICES (2)**
 Prereq: Psych 311 or equivalent. Course content varies with the interest of the students, but will include material on scaling, domain specification, item writing, test format and reproduction of instruments. Students, as a group, conceive, construct and pretest some measuring device of their own choosing.
- 520 **SEMINAR IN PERCEPTION (3)**
 Prereq: permission of instructor.
- 521 **SEMINAR IN LEARNING (3)**
 Prereq: permission of instructor.
- 522 **SEMINAR IN COMPARATIVE PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 523 **SEMINAR IN PHYSIOLOGICAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 524 **SEMINAR IN MOTIVATION (3)**
 Prereq: permission of instructor.
- 525 **SEMINAR IN CURRENT PHILOSOPHICAL ISSUES IN PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 526 **SEMINAR IN DEVELOPMENTAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 527 **SEMINAR IN PERSONALITY (3)**
 Prereq: permission of instructor.
- 528 **SEMINAR IN SOCIAL PSYCHOLOGY (3)**
 Prereq: permission of instructor.
- 529 **SEMINAR IN BEHAVIOR PATHOLOGY (3)**
 Prereq: permission of instructor.

Psychology

- 530 SEMINAR IN MEASUREMENT (3)
Prereq: permission of instructor.
- 531 SEMINAR IN EDUCATIONAL PSYCHOLOGY (3)
Prereq: permission of instructor.
- 532 SEMINAR IN CROSS-CULTURAL COUNSELING (3)
Prereq: admission to M.S. mental health counseling curriculum or the M.Ed. school counseling program. Permission of the instructor required for students in the general curriculum. Review of fundamental issues in counseling theory and techniques as they relate to providing mental health services to clients of different cultural and ethnic backgrounds. Some skill development through simulation, role playing and other laboratory procedures in counseling the culturally different.
- 538 INTERDISCIPLINARY SEMINAR IN BEHAVIORAL TOXICOLOGY (2)
Prereq: graduate status, Envr 456 or 556 or Psych 501, or permission of instructor. Assessment of the impacts of toxic environmental chemicals on various behavioral processes.
- 550 RESEARCH ISSUES AND METHODS IN COUNSELING (3)
Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program and Psych 512. Covers content and research methods relevant to psychological processes in psychotherapy. Students will produce a research proposal.
- 551 DEVELOPMENTAL SCHOOL COUNSELING (3)
Prereq: admission to M.S. mental health counseling curriculum or to M.Ed. in school counseling; students in general psychology program with instructor permission. A comprehensive overview of professional school counseling with particular emphasis upon recent advances in counseling program development, organization, evaluation and service delivery models.
- 552 STRATEGIES OF BEHAVIOR CHANGE (3)
Prereq: admission to M.S. program. Study of selected current approaches to behavior change with particular attention to application with children.
- 553 THEORIES OF COUNSELING AND PSYCHOTHERAPY (3)
Prereq: admission to M.S. mental health counseling curriculum or to M.Ed. school counseling program. May be taken by students in the M.S. general curriculum with permission of the instructor. Basic orientation to counseling theories including the history and development of theories of counseling; comparison of the theories in terms of goals, process, methods; and evaluation and research in counseling. Some consideration of consultation strategies, systemic skills and psychological education models used by psychological counselors and psychotherapists.
- 554 STANDARDIZED TESTS (3)
Prereq: admission to M.Ed. school counseling program, M.S. mental health counseling curriculum program, or instructor permission. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.
- 555 OCCUPATIONAL AND CAREER DEVELOPMENT (3)
Prereq: admission to M.S. mental health counseling curriculum or to M.Ed. school counseling program and Psych 553. Critical examination of major theories of career development and vocational counseling. Sources of occupational materials and analysis of their use and distribution in counseling practice.
- 557 TESTING AND APPRAISAL IN COUNSELING (3)
Prereq: admission to M.S. mental health counseling curriculum and Psych 511, or admission to the M. Ed. school counseling program and Psych 554. The evaluation and use of various psychological tests, scales and inventories in the assessment of intelligence, personality, interests and other human dimensions. Some consideration of other modes of assessment (e.g., behavioral, projective and neurological). Emphasis is on the practical application of psychological assessment in counseling. Collection, evaluation, application and interpretation of case data.
- 558 FAMILY, MARITAL AND SEX COUNSELING (3)
Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program plus Psych 553 and 564. A review of major theories, techniques and research in psychological counseling with families. Emphasis is on parent-child developmental problems and the role of interpersonal relationships within the total family. Students will be involved in limited supervised family counseling experiences.

560 FAMILY COUNSELING LAB (1-6)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. Students will observe and conduct family counseling sessions through the Psychology Department clinic under the supervision of an appropriate faculty member. Repeatable to six credits. S/U grading.

561 SEMINAR: PROFESSIONAL, LEGAL AND CULTURAL ISSUES (3)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. Consideration of the professional, cultural, ethical and legal issues and special problems in the application of psychological theories and research in educational settings, community clinics and private practice.

564 INDIVIDUAL COUNSELING TECHNIQUES (5)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. Skill development in individual counseling, psychotherapy and behavior modification techniques using actual interviews, simulations, videotape and other laboratory procedures. Prerequisite to practicum in individual counseling and psychotherapy.

565 GROUP PROCESSES IN COUNSELING (4)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. Current group counseling and psychotherapy techniques. Task-directed, encounter, decision-making and communication techniques are covered.

570 PRACTICUM (1-10)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. Professional practice under assigned departmental supervision. Repeatable to 15 credits. S/U grading.

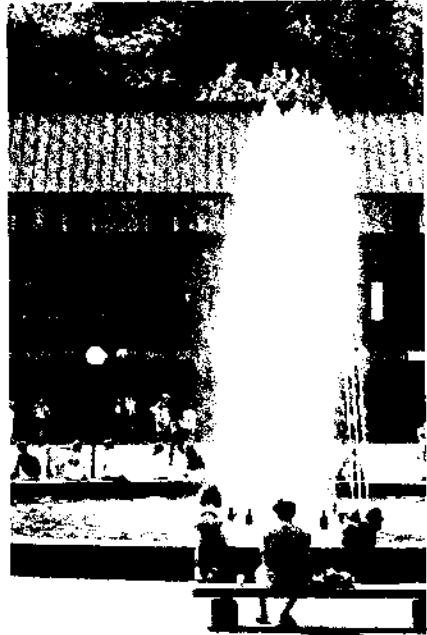
580 SEMINAR IN COLLEGE TEACHING OF PSYCHOLOGY (3)

581 PRACTICUM IN COLLEGE TEACHING OF PSYCHOLOGY (1-12)

Prereq: permission of instructor. S/U grading.

582 PRACTICUM IN RESEARCH IN PSYCHOLOGY (1-12)

Prereq: permission of instructor. Student initiates and conducts a project under faculty supervision. S/U grading.



661 ADVANCED SEMINAR IN PROFESSIONAL ISSUES IN COUNSELING PRACTICE (2-4)

Prereq: admission to M.S. mental health counseling curriculum, M.Ed. school counseling program, initial certification in school counseling or permission of instructor. An advanced seminar in professional, cultural, ethical and legal issues in counseling. For students who are in internships or for counselors with a year of practical experience.

670 INTERNSHIP (1-12)

Prereq: admission to M.S. mental health counseling curriculum or M.Ed. school counseling program. An extension of Psych 570 with increasingly independent responsibilities for practice in a professional setting. Primary supervision is by appropriate staff in the cooperating agency. Repeatable to 30 credits. S/U grading.

690 THESIS (1-6)

Prereq: advancement to candidacy. S/U grading.

Science Education

Students planning to major in a science for elementary or junior high teaching should see majors in general science or earth science. Students planning a major in science for high school teaching should consult with the appropriate science education advisers within the departments.

For further information and advisement contact Dr. John A. Miller, Department of Chemistry, the director of Science Education.

GENERAL SCIENCE

For information consult the adviser, Dr. John A. Miller, Department of Chemistry, the director of Science Education.

BACHELOR OF ARTS IN EDUCATION

Major — General Science — Elementary 45 credits

- Physics 114; Astron 103 and/or Geog 331
- Chem 115 or 121; Geol 211, 212
- Biol 121
- Electives under advisement

Major — General Science — Secondary 4-12 92-95 credits

The major in secondary science results in a science 4-12 endorsement. For certification a minimum grade point average of 2.75 in science courses is normally required.

- Physics — 15 credits: Physics 114, 115, 116 (or Physics 121, 122, 123, 125 and Math 124, 125)
- Chemistry — 15 credits: Chem 115 or 121, 251, and 122 or 371
- Biology — 17-18 credits: Biol 121, 123 and two courses from 122, 210, 211, 212 under advisement

- Earth Science — 12-14 credits: Geol 211, 212, 214, or 340 or 414
- Astronomy 315
- Sci Ed 491, 492
- Biol 485 or equivalent
- Minimum of 15 additional credits in upper-division courses in one science discipline under advisement.

GRADUATE STUDY

For a concentration leading to a Master of Education degree in natural science/science education see the Graduate School section of this catalog.

COURSES IN SCIENCE EDUCATION

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 390 SCIENCE METHODS AND CURRICULUM FOR THE ELEMENTARY SCHOOL (3)
Prereq: At least 12 credits in the natural sciences; general university requirements in mathematics; EdCI 320. Classroom/laboratory study of theory, curriculum, science content and processes with activities appropriate for the elementary classroom. To be taken in sequence with Sci Ed 391 (enroll one quarter prior to registering for Sci Ed 391).
- 391 LABORATORY/FIELD EXPERIENCE IN ELEMENTARY SCIENCE (2)
Prereq: Sci Ed 390. Emphasis is on an experience in which students teach science to elementary students for an extensive portion of the quarter. To be taken in quarter following completion of Sci Ed 390.
- 401 READING IN SCIENCE EDUCATION (1)
Prereq: Sci Ed 491 or concurrent enrollment or permission of instructor. In-depth study of science education literature with a view to writing one short and one extensive report, plus making two short presentations to class peers based on these reports.

480 SPECIAL PROJECTS IN SCIENCE FOR THE ELEMENTARY GRADES (2-5)

Prereq: Sci Ed 390; permission of instructor. Projects involving science instructional materials and curriculum. Repeatable.

490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)

Prereq: Sci Ed 491 or equivalent; permission of instructor. Projects involving science instructional materials and curriculum. Repeatable.

491 METHODS IN SECONDARY EDUCATION FOR SCIENCE TEACHERS (5)

Prereq: admission to the secondary teaching program and a major or concentration in natural sciences. Study of literature, curriculum and teaching strategies in life, earth and physical sciences for grades 4-12, plus peer teaching and school observations. To be taken in fall quarter of year student does student teaching.

492 TEACHING SCIENCE FOR THE SECONDARY SCHOOL (4)

Prereq: Sci Ed 491. Preparation and performance of the TIC during first 3 to 4 weeks of winter quarter prior to entering EdCI 492. S/U grading.

513 SCIENCE CURRICULUM GRADES K-12 (3)

Prereq: teaching experience or permission of instructor. Examination of science curricula for grades K-12 with major emphasis on the elementary grades as a basis for development of a science curriculum and teacher's guide for use in local school systems.

514 SEMINAR IN ELEMENTARY SCIENCE EDUCATION (1-3)

Prereq: permission of instructor.

580 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE ELEMENTARY SCHOOL (2-5)

Prereq: teaching experience or permission of instructor. Problems related to science instruction and curriculum. Repeatable.

582 SPECIAL TOPICS IN THE PHYSICAL SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)

Prereq: Sci Ed 390, 391 or equivalent. In-depth study of topics, in the physical sciences most appropriate for instruction in the elementary school.

583 SPECIAL TOPICS IN THE BIOLOGICAL SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)

Prereq: Sci Ed 390, 391 or equivalent. In-depth study of topics in the biological sciences most appropriate for instruction in elementary school.

584 SPECIAL TOPICS IN THE EARTH SCIENCES FOR ELEMENTARY SCHOOL TEACHERS (4)

Prereq: Sci Ed 390, 391 or equivalent. In-depth study of topics in earth sciences most appropriate for instruction in the elementary school.

590 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)

Prereq: teaching experience or permission of instructor. Problems related to science instruction and curriculum. Repeatable.

592 SPECIAL TOPICS IN THE PHYSICAL SCIENCES (4)

Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in chemistry and physics of special interest to secondary teachers. Repeatable.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501 ADVANCED STUDIES IN SCIENCE EDUCATION (4)

Prereq: teaching experience or permission of instructor. A critical study of research and developments related to science education

511 INTERNSHIP IN SCIENCE EDUCATION (3)

Prereq: permission of instructor. Assisting with the teaching of an on-campus science methods course for preservice elementary school teachers. S/U grading.

512 IN-SERVICE WORKSHOPS IN SCIENCE EDUCATION (3)

Prereq: permission of instructor. Planning and implementing a series of not less than three in-service workshops in elementary school science. Repeatable for elective credit. S/U grading.



593 SPECIAL TOPICS IN THE BIOLOGICAL SCIENCES (4)

Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in biology of special interest to the secondary teacher. Repeatable.

594 SPECIAL TOPICS IN THE EARTH SCIENCES (4)

Prereq: secondary method course, admission to M.Ed. natural sciences program and completion of undergraduate courses required for admission. Content topics in geology and related fields of special interest to secondary teachers. Repeatable.

598 RESEARCH PROJECT (6)

Prereq: admission to M.Ed. natural sciences program, and completion of 15 credits of 500-level courses including one of Sci Ed 590, 592, 593 or 594. Research in fields of biology, chemistry, earth science, general science, physical science, physics or education for non-thesis option.

690a RESEARCH (1-6)

Prereq: admission to program, permission of instructor. Restricted to thesis-related research.

690b FIELD PROJECT (1-12)

Prereq: approval of the student's graduate committee. Field project under the direction of a faculty committee. A portion of the field project normally requires work off campus. S/U grading.

Social Studies Education

Social studies education is an interdisciplinary history and social science program for students majoring in elementary and secondary education. Social studies education courses and curriculum are directed by the Social Studies Program Committee. Questions relating to social studies classes and certification programs should be directed to Dr. Peter J. Hovenier, program head, and to individual advisers listed under Secondary Education below in this section of the catalog.

Elementary Education

The elementary social studies major is designed for students who plan to be certified K-8th grade. A 2.75 GPA is required for all courses taken to satisfy this major.

BACHELOR OF ARTS IN EDUCATION

Major — Social Studies — Elementary 55-62 credits
Adviser: Dr. Peter J. Hovenier

- Anth 201 or Soc 101
- Econ 206 or 446
- Geog 201 and Geog 310 or 311
- Hist 103, 104, 391
- Pol Sci 250
- Soc St 425
- One course from Econ 446*, Geog 406, Soc St 435 or Soc St 446
- 11 credits in history including one course in world, Western or Pacific Rim history or civilization and 5 credits in non-history upper-division social science

*Econ 446 counts if not selected above.

Secondary Education

Completion of this program meets certification requirements in the selected academic discipline and social studies. Students must complete the following:

- An approved academic degree program* in:
 - American Cultural Studies** — Adviser:
 - Dr. J. Hiraoka
 - Anthropology — Adviser:
 - Dr. Robert C. Marshall
 - Economics — Adviser:
 - Dr. David Nelson
 - Geography — Adviser:
 - Dr. Robert Monahan
 - History — Advisers:
 - Dr. Harry Jackson;
 - Dr. Louis W. Truschel
 - Political Science — Adviser:
 - Dr. Sara J. Weir
 - Psychology — Adviser:
 - Dr. Laurence P. Miller
 - Sociology — Adviser:
 - Dr. John G. Richardson
 - Social Studies** — Adviser:
 - Dr. Peter J. Hovenier
- Certification requirements of the Educational Curriculum and Instruction Department
- The Social Studies Minor
- 2.75 GPA for all social science and history courses

*See appropriate catalog sections and/or advisers for approved degree programs.

**Social studies majors are student/faculty-designed majors, approved by the Social Studies Program Committee and leading to the Bachelor of Arts in Education degree. Students in the American Cultural Studies Program must select this option.

Social Studies Education

Minor — Social Studies

44-46 credits

Adviser: Dr. Peter J. Hovenier*

Required Courses:

- Hist 103, 104, 391 and 11 credits including one course in world, Western or Pacific Rim history or civilization
- Geog 201
- Pol Sci 250
- Econ 206 or 446 and 207 or 447
- Soc St 425 or 426 (secondary students must select 426)

Secondary students who major in economics, geography, history or political science may count courses credited for their major. Secondary history majors must complete 30 non-history social science credits.

*The minor adviser for secondary students is the listed adviser for the academic major.

COURSES IN SOCIAL STUDIES EDUCATION

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

425 SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL (4)

Prereq: EdCI 320. Social studies methods, resources, curriculum, objectives, planning and exposure to contributions of social sciences. For elementary certification.

426 SOCIAL STUDIES FOR THE SECONDARY SCHOOL (4)

Prereq: EdCI 471. Social studies methods, resources, curriculum, objectives, planning. For secondary certification.

435 USING COMMUNITY RESOURCES IN SOCIAL STUDIES (3)

Prereq: junior status. Course explores community resources and the incorporation of the resources in the curriculum.

446 LAW FOCUSED TEACHING AND CURRICULUM (1-5)

Prereq: junior status. Course to enable teachers to teach about criminal justice system, police, juvenile justice, consumer law, due process, etc. Course will provide teachers with tested classroom procedures, substantive law and field experience with justice agencies.

490 SOCIAL STUDIES PRACTICUM (2-5)

Prereq: Soc St 425 or 426 and permission of instructor. Micro teaching of students in learning laboratories or arranged social studies assignments in classrooms. S/U grading.



Sociology

In common with the other branches of science, sociology is not simply a point of view but rather a method for discovery and a body of information specifically about social organization and behavior. Sociology begins with the simple assumption that organization and behavior are not random events. Its fundamental purpose is to discover the patterns which underlie social events and to describe these patterns in a concise manner.

The programs leading to degrees in sociology at Western are designed to provide the student with a strong academic and practical training. Through formal class work and seminars, the student is introduced to the method and theory of sociological inquiry. This preparation may be extended if the student chooses to become involved in one of many research projects in the department. Working under faculty supervision, the student may choose to pursue more thoroughly such areas as demography, human ecology, criminology/law, education, family/life, aging or applied research.

The department currently houses a number of facilities for sociological research. The Demographic Research Laboratory contains a wide variety of research resources which include: U.S. Census Bureau products in published, microfiche and machine-readable format; a collection of census boundary maps for the local area; vital statistics data; and a demographic serials collection. National survey data are included in the laboratory collection for social scientific research and training. The department, with funding assistance from the National Science Foundation, has a computer laboratory equipped with microcomputers and terminal access to University mainframes. Computer peripherals provide video graphic display, plotter and laser print capability. Additionally, members of the faculty are

involved in a variety of research projects involving the collection of original data and the analysis of existing data.

The department has programs leading to the B.A., B.A. in Education, and B.S. in sociology. The Bachelor of Arts degree is designed to provide students with a liberal arts education, with individual specialization in sociology under advisement. While employment prospects are difficult to identify with precision for a general liberal arts degree, it has been the case for most of this century that such degree holders remain more likely to be employed, to be employed throughout their lifetimes as market conditions change, and to report higher lifetime incomes and job satisfaction throughout their working life than any other general category in the labor force. The department offers career advising and information in sociology and encourages students to make use of these services. Former graduates holding the B.A. currently fill numerous positions in both the public and private sectors; many have pursued advanced studies in sociology and other related fields. The B.S. degree is designed to provide students with a theoretical and substantive background in sociology, together with accessory skills in mathematics and computer science.

SOCIOLOGY FACULTY

- CARL H. SIMPSON (1978) Chair.
Professor. BA, PhD, Stanford University.
- KRIS BULCROFT (1988) Assistant Professor.
BA, Pacific Lutheran University; MA, Eastern Washington University; PhD, University of Minnesota.
- DONALD J. CALL (1958) Associate Professor.
BA, MA, PhD, University of Oregon.
- DIANNE C. CARMODY (1991) Assistant Professor.
BA, MA, PhD, University of New Hampshire.
- JAMES INVERARITY (1985) Associate Professor.
BA, University of Michigan; MA, PhD, Stanford University.
- E. R. MAHONEY (1970) Professor. BA, Chico State College; MA, PhD, University of Oregon.

Sociology

- JOHN G. RICHARDSON (1974) Professor. BA. University of the Pacific; MA, PhD, University of California, Davis.
- G. EDWARD STEPHAN (1970) Professor. BA. San Francisco State College; MA, PhD, University of Oregon.

DECLARATION OF MAJOR

Students wishing to declare a major in sociology must satisfy at least *one* of the following criteria:

- 2.50 overall GPA
- 2.75 GPA in the first 20 sociology credits past Soc 101, including Soc 210.

Students failing to meet either criterion may petition the department's Undergraduate Admissions Committee for a waiver of the requirement.

BACHELOR OF ARTS

Major — Sociology 60 credits
Elective Concentrations

The following concentrations are offered to assist students in selecting an undergraduate program which meets specific needs and interests while at the same time guaranteeing sufficient breadth to avoid over-specialization.

Sociology students are encouraged to formulate a plan of study at the point of declaring their major. At that time, allowable transfer credits and/or credits from other departments which may apply to the major will be established. The department maintains an Office of Undergraduate Advising throughout the year for this purpose.

Students should obtain a copy of the undergraduate "Student Guide to Sociology" available in the Sociology office.

Core Program

- Soc 101, 210, 215, 302

General Sociology:

Adviser — C. Simpson

- Core program
- Soc 303, 321
- One from: Soc 404, 412, 415, 430a,b,c, 461, 463

- Additional sociology electives to total 60 credits

Criminology:

Adviser — J. Inverarity

- Core program
- Soc 352, 355
- Soc 351 or 353
- One from: Soc: 450, 452, 456
- Additional sociology electives to total 60 credits

Demography:

Advisers — L. Tedrow, G.E. Stephen

- Core program
- Soc 320, 321, 421
- Soc 323 or 324
- Math 105
- CS 110
- Additional sociology electives to total 60 credits

No more than 10 credits from the following courses may be applied to the 60 credits required for the major: Soc 300, 400, 410, 480

Soc 471 may not be applied to the 60 credits required for the major.

Combined Major

A combined major is available as an option to students whose educational or professional interests may best be furthered by an integrated curriculum from two disciplines. A combined major may be fulfilled by the completion of requirements stipulated by both the Sociology Department and a department with which sociology has established arrangements. A plan of study must be approved by both departments for completion of the major.

Minor — Sociology 25 credits

- Soc 101, 302, 321 or 330
- Electives under departmental advisement

Minor — Demography

25 credits

A minor in demography is offered by the department for students whose major work in another discipline can be strengthened by training in the

techniques of demographic analysis.

- Soc 320, 321, 421
- CS 110
- Choose either Soc 323 or 324
- Electives under advisement

*Minor — Criminology/
Sociology of Law* 25 credits

The criminology/sociology of law minor is constructed to give students from other disciplines a focus in one of sociology's oldest areas of study. The minor includes the study of crime and of the criminal legal system.

- Soc 101, 210, 352, 355
- Electives under departmental advisement to 25 credits

BACHELOR OF ARTS IN EDUCATION

*Major — Elementary and
Secondary* 50 credits
Adviser — J. Richardson

- Soc 101, 210, 215, 302, 361, 461
- At least two courses from Soc 321, 332, 338, 353, 360, 380
- Under advisement: electives from sociology or other disciplines
- Elementary program students also must complete professional program courses as outlined in the Educational Curriculum and Instruction section
- Secondary program students must also complete the specific program requirements for social studies education. See the Social Studies Education Program section of this catalog. Completion of this program leads to teaching endorsements in sociology and social studies at the secondary level

BACHELOR OF SCIENCE

Major — Sociology 75 credits
Adviser — G. E. Stephan

- Math 124, 125
- CS 110
- Soc 101, 210, 215, 302, 303, 321, 415, 421, 492

- Additional credits under advisement in mathematics, computer science, sociology or cognate areas

DEPARTMENTAL HONORS

In addition to the general requirements for all University honors program students, a sociology major who wishes to graduate with honors must demonstrate a reading knowledge of a foreign language and submit a senior thesis.

GRADUATE STUDY

For a concentration leading to the Master of Arts degree, see the Graduate School section of this catalog.

COURSES IN SOCIOLOGY

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 101 INTRODUCTION TO SOCIOLOGY (5)
Basic problems and concepts in the study of society; social change and organization; human behavior in the family, education, religion, cities; social class, race, age, sex and the structure of society; sociology as science and as response to human problems.
- 205 PROSEMINAR IN SOCIOLOGY (2)
Prereq: Soc 101 and less than 25 credits in sociology. Orientation to sociology as an academic discipline and as a field with associated occupational futures; self-assessment and peer assessment of skills relevant to success in the field; research linking various undergraduate experiences to occupational success. Intended as interactive introduction to, and planning for, the WWU major. S/U grading.
- 210 INTRODUCTION TO RESEARCH METHODS (5)
Prereq: Soc 101. The nature of scientific theory, the development of social research; the basic methods and techniques of data gathering, processing and analysis.
- 215 SOCIAL STATISTICS (5)
Prereq: Soc 101 and Math 102 or equivalent. Application of statistical reasoning and methods in sociological research

Sociology

- 251 **SOCIOLOGY OF SOCIAL PROBLEMS (5)**
Prereq: Soc 101 or equivalent. A survey of selected social problems, defined as circumstances or conditions which attract and hold public attention, which are historically or politically "controversial" and which both demand and defy solutions. The course is primarily concerned with the application of sociological concepts and techniques to the understanding of the sources of social problems and the prospects for their "solutions."
- 261 **SOCIAL WELFARE IN AMERICA (5)**
Prereq: Soc 101. The social work profession in modern society; professional and social scientific elements of social work; social work and social welfare.
- 302 **HISTORY OF SOCIAL THOUGHT (5)**
Prereq: Soc 101. The emergence of sociology; sociology as response to the Industrial Revolution and as an attempt to develop a scientific understanding of social organization, behavior and change; the development of social thought; Comte, Spencer, Marx, Durkheim and Weber.
- 303 **CONTEMPORARY SOCIOLOGICAL THEORY (5)**
Prereq: Soc 101, 302. Major contemporary perspectives in sociology.
- 320 **COMPUTER APPLICATIONS FOR SOCIAL SCIENCE DATA (4)**
Prereq: Soc 101, 215, or equivalent. Designed to integrate fundamental statistical knowledge with direct computer applications for the organization and analysis of data sets encountered in social science research. Training in the use of library statistical routines (e.g., SPSSx) central to research in the social sciences is emphasized.
- 321 **INTRODUCTION TO DEMOGRAPHY (5)**
Provides a systematic introduction to the study of human populations. Designed for students interested in the subject regardless of their major discipline. Examines social, economic and biological factors associated with fertility, mortality and migrations.
- 323 **URBAN SOCIETY (5)**
Prereq: Soc 101. The city in history, the ecology of urban areas, social classes in the city, the city lifestyle, effects of crowding on human behavior, crime in cities, and other urban social problems; urban politics and urban planning.
- 324 **DEMOGRAPHY OF AGING (5)**
Prereq: Soc 101, 333. Basic demographic analysis of distribution of the elderly population in America; distribution of income, health care availability, places of residence, migration, marital status and living arrangements; causes of death among the older population. Past patterns studied and future patterns projected.
- 330 **INTRODUCTION TO SOCIAL PSYCHOLOGY (5)**
Prereq: Soc 101. Interpersonal behavior, perception of others, attraction toward and liking of others, self evaluation, helping behavior, aggression, attitudes and their relationship to behavior, sexual behavior, types of interaction processes, childhood and adult socialization, deviance and conformity, personal space, environmental effects on behavior, sex role attitudes and behavior.
- 332 **THE SOCIOLOGY OF HUMAN RELATIONSHIPS (5)**
Prereq: Soc 101. A social psychological examination of liking, loving and relating. Emphasis on dyadic relationships such as marriage, friendship and parent-child relationships. Topics include socialization into romance and love, historical linkages between industrialization and the "feminization" of love, sociological perspectives on liking and loving, and research methods used in the study of dyadic relationships.
- 333 **AGING IN AMERICA (5)**
Prereq: Soc 101. Introduction to basic concepts, theories, and issues of aging. Social history of aging; perception, status and responsibilities of the elderly from prehistory to the present; development of gerontology and social theories of aging.
- 335 **SOCIOLOGY OF MEDICINE, HEALTH AND ILLNESS (5)**
Prereq: Soc 101. How health, illness and disease in American society differ by age, sex, race, social class, and ethnicity; social-psychological factors in health and illness, interpersonal relationships among patients and health personnel; health care system in the United States and modern medical technology; death and dying.
- 338 **SOCIOLOGY OF SEXUAL BEHAVIOR (5)**
Prereq: Soc 101. Human sexuality, with an emphasis on western cultures and the United States in particular, is studied from a scientific perspective. Emphasis is placed on both description and explanation of patterns and diversity in sexuality. While focusing on the social dimensions of sexuality, the historical, biological and psychological aspects of sexuality are integrated into a comprehensive overview.

- 351 **SOCIOLOGY OF DEVIANT BEHAVIOR (5)**
 Prereq: Soc 101. Examination of labeling and behavior processes in deviance. Analysis of labeling by both the public and formal agencies such as the police and courts; effects of labeling and the behavioral characteristics of deviant lifestyles.
- 352 **CRIMINOLOGY (5)**
 Prereq: Soc 101. The study of adult crime, defined as violation of legal norms. The course focuses on problems of measurement and attempts to explain crime as a social phenomenon and a cultural product. It includes an in-depth analysis of various forms and classes of crimes and their victims.
- 353 **JUVENILE DELINQUENCY (5)**
 Prereq: Soc 101. Juvenile delinquency as a socially created phenomenon distinct from adult criminality; the juvenile court; extent and correlates of delinquency; group and gang delinquency; explanations for juvenile misbehavior.
- 354 **TREATMENT AND CORRECTIONS (5)**
 Prereq: Soc 101. Analysis of the structure and processes of law enforcement and corrections. Treated as an input-output system, police practices, sentencing practices and correctional treatment includes correction institutions, community corrections and probation and parole and the future of corrections.
- 355 **CRIMINAL JUSTICE SYSTEM (5)**
 Prereq: Soc 101. Overview of the social organization of the criminal justice system in the United States. Examination of the organizations that create and enforce the criminal law as well as major issues currently confronting this system (plea bargaining, discrimination, limitations on due process).
- 360 **SOCIOLOGY OF THE FAMILY (5)**
 Prereq: Soc 101. Analysis of the family as an institution and network of relationships in American life.
- 361 **SOCIOLOGY OF EDUCATION (5)**
 Prereq: Soc 101. Analysis of the historical origins and spread of public education, the internal organization of schools and classrooms and the social impact of education. Schooling as a major form of socialization and status placement; political and legal bases of education; nonformal schooling; education and nation-state formation.
- 362 **POLITICAL SOCIOLOGY (5)**
 Prereq: Soc 101. The social aspects of political phenomena with an emphasis on power and authority, conflict and change, political attitudes and ideologies.
- 364 **SOCIAL STRATIFICATION (5)**
 Prereq: Soc 101. Social causes and consequences of inequality in America. Social distribution of wealth, power, and status; emphasis on poverty and racial social inequality.
- 367 **SOCIOLOGY OF WORK AND OCCUPATIONS (5)**
 Prereq: Soc 101. Sociological and social-psychological significance of work; factors affecting contemporary occupational structures and associated with typical career patterns/life cycle changes; sex, race, ethnic and social class differences; structural characteristics of selected occupational areas.
- 368 **SEX ROLES AND SOCIAL STRUCTURE (5)**
 Prereq: Soc 101. Socially constructed differences between the sexes; socialization into sex roles; reactions to sexual deviation; sex role differentiation and socialization in family and social institutions; the effect on life changes of sex socialization.
- 369 **MINORITIES IN AMERICA (5)**
 Prereq: Soc 101. Sociological and socio-psychological aspects of minority group situations and minority relations with the larger society; emphasis on non-white subcultures in the United States.
- 370 **HISTORICAL SOCIOLOGY (5)**
 Prereq: Soc 101. Historical sociology is cross-disciplinary in theory and method, examining the interrelation of historical attention to detail and the sociological focus on general patterns. The application of conceptual frameworks and quantitative methods to specific historical events are elaborated to this end.
- 372 **APPLIED SOCIOLOGY (5)**
 Prereq: Soc 101, 210, or equivalent. Reviews major examples of research having practical applications for planning or evaluation and discusses methods of accomplishing valid applied research. Students conduct a full scale applied research project, the results of which will be used by WWU.
- 380 **SOCIOLOGY OF YOUTH (5)**
 Prereq: Soc 101. Sex and age status definitions and role-taking; historical, institutional and social process aspects of maturation, with special emphasis on Western industrial society from the 18th century to the present.

Sociology

396a,b,c HONORS TUTORIAL (3-5 ea)

404 SEMINAR IN SOCIOLOGICAL THEORY (4)

Prereq: Soc 302, 303, senior status and declared sociology major, or permission of instructor. Examines the continuity of social theory from the 18th century to contemporary European and American work. Broad themes that span this time are explored in both primary works and current reviews.

410 RESEARCH (3-5)

Prereq: permission of instructor. Independent investigation of a problem through field or library research, or active participation as research assistant on a faculty research project.

412 SEMINAR IN ADVANCED RESEARCH METHODS (4)

Prereq: Soc 210, 215. Introduction to the process of doing research, including research design, estimation of relationships, techniques of interpreting and presenting results.

415 ADVANCED QUANTITATIVE ANALYSIS (4)

Prereq: Soc 101, 215 or equivalent, senior status and declared sociology major; or permission of instructor. Experimentation and tests of significance applied to research problems.

421 DEMOGRAPHIC ANALYSIS (3)

Prereq: Soc 101, 215, 321, or equivalents. Theory and method of population analysis; measures of mortality, fertility and migration; population forecasting techniques.

430a,b,c CURRENT SUBSTANTIVE RESEARCH (3)

Prereq: Soc 101, 210, 302, senior status, and declared sociology major; or permission of instructor. Seminar-based class, with topics that vary. Topics are continuations of substantive areas of faculty research and require a demonstrated level of preparation. The problems and methods that link the substantive area to the larger discipline are addressed through direct student research.

433 SEMINAR IN ADVANCED AGING (4)

Prereq: Soc 101, 210, 215, 333 or 324. Analysis of the social, medical and legal issues surrounding growing old in American society, including to "protect" the elderly. Cross-cultural comparisons concerning the economic and social support of older populations.

450 SOCIOLOGY OF LAW (4)

Prereq: Soc 101, 210, 215, 302, 352, 355, senior status, and declared sociology major; or permission of instructor. The relationship between law and society: the origin of laws as reflecting popular attitudes and elite measures of social control. The methodological study of legal evolution and social change.

452 ADVANCED CRIMINOLOGY (4)

Prereq: Soc 101, 210, 215, 302, 352, 355, senior status, and declared sociology major; or permission of instructor. An in-depth examination of selected areas in sociological criminology.

456 POLICE AND SOCIETY (4)

Prereq: Soc 101, 210, 215, 302, 352, 355, senior status; declared sociology major and permission of instructor. Review of research on the organization of law enforcement. Topics include impact of legal and organizational controls on police behavior, police use of deadly force, minorities and policing, and community policing.

461 SEMINAR IN SOCIOLOGY OF EDUCATION (4)

Prereq: Soc 101, 361, and senior status or permission of instructor. Advanced study of topics and research presented in Soc 361: educational stratification, origins and expansion of educational systems in the U.S. and cross-nationally, school and classroom organization and their effects on student learning and socialization; interaction processes in classrooms.

463 SOCIOLOGY OF RELIGION (4)

Prereq: Soc 101, 302, senior status and declared sociology major; or permission of instructor. Religion as a force for change or stability; the social causes of religious beliefs; religion and the search for meaning; the structure and organization of religious groups. Special emphasis on recent experimentation with Eastern and charismatic religions.

471 DIRECTED INTERNSHIP (3-10)

Prereq: junior status; completion of Soc 101, 210, 302; permission of instructor. Participant observation in research and applications in human services agencies and organizations. Elective credits only; does not apply toward sociology major. S/U grading.

480 LEARNING AND TEACHING SOCIOLOGY (2-5)

Prereq: Soc 101, 210, 215, 302, declared sociology major and permission of instructor. Combines experience as a teaching assistant for a sociology course and participation in a seminar, with other teaching assistants, focused on effective teaching and learning processes in sociology. S/U grading.

492 SENIOR THESIS (5)

Prereq: Soc 101, 210, 215, 302, declared sociology major and permission of instructor. Supervised independent research, on an advanced topic, leading to a substantial research paper.

496a,b,c HONORS TUTORIAL (3-5 ea)

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 36-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501 ADVANCED GENERAL SOCIOLOGY (2)

Prereq: graduate status in sociology and permission of instructor. Review of major substantive areas of sociology. Overview of fundamental concepts, research methods and findings. Introduction to research interests of faculty, designed to familiarize students with examples of research and attendant problems.

502 SEMINAR: HISTORY OF SOCIAL THOUGHT (3)

Review and evaluation of major nineteenth and early twentieth century theories of social organization and change.

503 SEMINAR: CONTEMPORARY SOCIOLOGICAL THEORY (3)

Review and evaluation of major contemporary perspectives in sociology.

505 COMPUTER APPLICATIONS IN SOCIOLOGY (3)

Prereq: graduate status; concurrent enrollment in Soc 515. Emphasis on computer applications in the analysis of large-scale data sets; training in the use of SPSS and other library statistical routines.

510 SEMINAR: METHODOLOGY (3)

Prereq: Soc 210 and 215 or equivalent. Analysis and evaluation of the procedures, assumptions and modes of explanation employed in sociological research.

515 SEMINAR: QUANTITATIVE TECHNIQUES (3)

Prereq: course in social statistics. Regression, path analysis and related techniques as applied to sociological research.

521 SEMINAR: DEMOGRAPHY (3)

Prereq: Soc 215 and 321 or equivalent, or permission of instructor. Critical review of demographic theory, methods and applications in the light of contemporary world population problems.

530 SEMINAR: SOCIAL PSYCHOLOGY (3)

Theoretical approaches, research methods and findings concerning identity, communications, task performance, deviation, sanctioning, leadership and other processes occurring in face-to-face and extended social interaction contexts.

535 SEMINAR: CURRENT SUBSTANTIVE RESEARCH (1-3)

Prereq: graduate status. Topics to vary. Repeatable with different subject area. Examines current research in a selected substantive field of sociology.

540 COMPLEX ORGANIZATIONS (3)

Theory and research on structure and processes of large-scale formal organizations in Western society: industrial-commercial, governmental, religious, military, political and educational organizations.

551 SEMINAR: SOCIAL CONTROL AND DEVIANCE (3)

Critical review of theories and concepts of deviance; analytic and philosophic problems of attempts at programmed social control.

690 THESIS (3-12)

Prereq: formal advancement to candidacy for the M.A. in sociology. S/U grading.



Speech Pathology & Audiology

THE DISCIPLINE

Speech-language pathology and audiology are disciplines which have developed out of a concern for people with communication disorders. Preparation leading to a degree in speech-language pathology and/or audiology includes a wide range of coursework and a variety of clinical practicum opportunities working with the infant through geriatric populations.

Students who intend to seek employment in this profession, whether in a public school, clinic, rehabilitation center or hospital setting, are advised that certification at the state and/or national levels is required. Out-of-state students should recognize that other requirements may exist for employment in their locales.

Students who major in allied professional programs and are interested in speech, language and hearing development and wish to understand the nature of communication disorders should consider the speech-language pathology and audiology undergraduate minor curriculum.

DEGREE PROGRAMS

The Department of Speech Pathology and Audiology offers both the Bachelor of Arts and the Master of Arts degree. The Bachelor of Arts is considered to be a pre-professional degree, which qualifies the student for preparation at the graduate level. For the bachelor's degree, a minor area of study of 25 credits or more is required. The minor must be approved by the student's academic adviser. Suggested areas include: biology, psychology, sociology or business. Individually designed minors are permissible with faculty approval.

The Master of Arts degree is a professional degree and facilitates certification at both the state and national level. A student may specialize in either speech pathology or audiology at the master's level. Also, an equivalency program is available for those not seeking the advanced degree.

Due to the clinical requirements of the program, enrollment in the undergraduate and graduate major may be limited.

ACCREDITATION

The Department of Speech Pathology and Audiology is accredited by the American Speech-Language-Hearing Association's Educational Standards Board (ESB) in both speech-language pathology and audiology and by the National Council for the Accreditation of Teacher Education.

CERTIFICATION IN SPEECH-LANGUAGE PATHOLOGY/AUDIOLOGY

Two types of professional certification are available: state certification (Communication Disorders Specialist, ESA-CDS), which is mandatory for public school employment in Washington State, and national certification (Certificate of Clinical Competence: Speech-Language Pathology, CCC-SLP; Audiology, CCC-A), which is necessary for employment in hospitals and clinics. Consult the department for additional information.

ACADEMIC AND CLINICAL COMPETENCY

Not everyone is suited to work with clients in the clinical fields of speech-

language pathology and in audiology even though they may maintain a satisfactory academic record. The faculty and staff of the Department of Speech Pathology and Audiology thus reserve the right to counsel students with this in mind, and to recommend a change of academic focus for any students who appear to have personality traits that would prevent them from being successful in the discipline.

For further information, contact the department chair, phone (206) 676-3885.

SPEECH PATHOLOGY AND AUDIOLOGY FACULTY

- LOREN L. WEBB (1965) Chair. Professor. BS, University of California, Berkeley; MA, University of Redlands; PhD, University of Washington. Undergraduate adviser (Audiology/Aural Rehabilitation).
- KENN APEL (1989) Assistant Professor. BA, MA, San Diego State University; PhD, Memphis State University. Undergraduate adviser (Speech-Language Pathology).
- CAROL C. McRANDLE (1975) Professor. BS, University of Minnesota, Duluth; MS, PhD, Purdue University. Director, Aural Rehabilitation Clinic. Transfer student adviser (Audiology/Aural Rehabilitation/Hearing Science).
- MICHAEL T. SEILO (1970) Professor. BS, Northern Michigan University; MA, University of Arizona; PhD, Ohio University. Director, Audiology Clinic; audiology graduate adviser; undergraduate adviser (Audiology/Aural Rehabilitation/Experimental Phonetics).
- LINA ZEINE (1983) Associate Professor. BA, American University of Beirut, Lebanon; MA, University of Colorado; PhD, University of Kansas. Undergraduate adviser; National Student Speech-Language-Hearing Association chapter adviser (Speech-Language Pathology).

Speech Pathology and Audiology Clinic Staff

- CANDACE K. GANZ (1982) Director, Speech-Language Clinic. BA, MA, University of Kansas. Speech-Language Pathology Clinic adviser (Speech-Language Pathology/Infant Behavior and Development).
- DONNA HUNTER (1985) Audiology Clinic Supervisor. BA, University of Saskatchewan; MS, Minot State College, North Dakota (Audiology).

- JILL K. HUNT-THOMPSON (1977) Speech-Language Pathology Clinic Supervisor. BA, MA, Western Washington State College. Speech-Language Pathology Clinic adviser (Speech-Language Pathology).
- GEORGETTA LILLEY (1988) Speech-Language Pathology Clinic Supervisor. BS, MEd, California University of Pennsylvania (Speech-Language Pathology).
- JAN SMITH (1989) Intern Coordinator. BS, University of Washington, MS, Idaho State University.

Adjunct Faculty

- DAVID LIPSCOMB BA, MA, University of Redlands; PhD, University of Washington.
- FRANK WILSON BS, Bowling Green State University; PhD, Northwestern University.

DECLARATION OF MAJOR

Students interested in majoring in speech-language pathology and audiology must make initial application with the Department of Speech Pathology/Audiology. At that time an adviser will be assigned. Students will complete an undergraduate major application to determine where they are in the eligibility process.

Undergraduate students who intend to continue their studies through a graduate degree in speech pathology/audiology must complete SPA 351, 352, 354 and 356 and obtain a grade point average of 3.0 with no single grade less than B- in any of the courses before officially being accepted into the pre-professional major. Once accepted, these students are required to take SPA 458 and 459.

Not all students in the major will choose to enter the graduate program. Those who do not would not need to take SPA 468a,b,c but will need to substitute an equivalent number of credits in order to meet the requirements of an undergraduate degree in speech pathology/audiology. The Junior Writing Examination must be taken and passed prior to acceptance into the major.

BACHELOR OF ARTS

Major — Speech-Language Pathology and Audiology

64 credits

- SPA 351, 352, 353, 354, 356, 361, 371, 373
- SPA 450, 451, 452, 454, 456, 457, 458*, 459*, 462, 463
*Graduate track only
- Electives under departmental advisement
- Required minor

Minor — Speech-Language Pathology and Audiology

25 credits

(A minimum of 25 credits. More than 25 are recommended.)

- SPA 351, 354, 361, 371, 373
- Electives under departmental advisement

GRADUATE STUDY

For a concentration leading to the Master of Arts degree, see the Graduate School section of this catalog.

COURSES IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

- 201 ORIENTATION TO SPEECH-LANGUAGE-HEARING DISORDERS (2)
Orientation lectures and video viewing on selected subjects in speech-language therapy and audiology. Also, students will observe aural rehabilitation, audiological testing, and most areas of speech and language pathology treatment.
- 351 INTRODUCTION TO COMMUNICATION DISORDERS (3)
Survey of speech, language and hearing disorders: an introduction to speech and language therapy as a discipline.

- 352 ANATOMY AND PHYSIOLOGY OF SPEECH MECHANISMS (5)
Structure and function of organs concerned with audition, central nervous system, respiration, phonation, resonance, articulation.
- 353 SPEECH SCIENCE (4)
Prereq: junior status. Acoustic and articulatory characteristics of the speech signal and their relation to speech production and perception. Lat required.
- 354 SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN (3)
Normal speech and language acquisition; its impact on the developing child; origins and growth of symbolic processes, developmental norms; factors influencing learning of language and speech
- 356 PHONETICS (3)
Training in recognition and production of sounds of spoken English through use of the International Phonetic Alphabet. Lab required.
- 361 LANGUAGE DISORDERS I (3)
Prereq: SPA 351, 354. Etiologies of language learning disabilities in children from birth to five years, diagnosis and treatment procedures.
- 371 INTRODUCTION TO AUDIOLOGY (5)
Introduction to the acoustic properties of simple and complex sounds; the structure and function of the auditory mechanism; the nature and causes of hearing impairment and a general survey of audiology as a discipline
- 373 INTRODUCTION TO PHONOLOGY (3)
Prereq: SPA 351, 352, 356. Phonological development, symptomatology, etiology and therapy for articulation disorders.
- 450 NEUROANATOMY FOR SPEECH PATHOLOGY AND AUDIOLOGY (3)
Prereq: SPA 352 or permission of instructor. Normal and abnormal structures of the human nervous system as they pertain to speech, language and hearing. Particular emphasis on sensory and motor pathways, cerebral development, localization and lateralization
- 451 LANGUAGE DISORDERS II (3)
Prereq: SPA 354. Diagnosis and treatment procedures for school-age language-learning impaired children
- 452 DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY (4)
Prereq: SPA 351, 352, 353, 354, 356, 373, 450, 451 or written permission of instructor. Methods, procedures, techniques and instruments, observation and lab required.

- 454 DISORDERS OF FLUENCY (3)
Prereq: SPA 351. Characteristics of stuttering behavior; current theories of etiology; principles and practices of therapy: cluttering as a related disorder.
- 456 ORGANIC SPEECH-LANGUAGE DISORDERS (3)
Prereq SPA 354, 373, 450 Symptomatology, etiology and therapy for cerebral palsy, cleft palate, aphasia, dysarthria and laryngectomy.
- 457 METHODS IN SPEECH-LANGUAGE THERAPY (5)
Prereq: SPA 373. Current methods, materials and procedures used in treating a variety of communication disorders. Directed observation.
- 458 BEGINNING CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (3)
Prereq: SPA 354, 457 and written permission of instructor. Clinic administrative procedures in therapy planning and implementation; professional writing; assistant clinician experience. Lab required. Required class for graduate-track students only.
- 459 CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (3)
Prereq: SPA 458, graduate track and written permission of instructor, and a minimum of 25 hours of documented speech-language pathology/audiology/aural rehabilitation observations. Supervised clinical practice. SPA 459 is required of all graduate-track students.
- 460 CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (3)
Prereq SPA 459, graduate track and written permission of the instructor.
- 462 AUDIOMETRIC TESTING (4)
Prereq: SPA 371 or permission of instructor. Introduction to the theory and application of pure tone, impedance and speech audiometry to the assessment of hearing function; implications for rehabilitation.
- 463 AURAL REHABILITATION (4)
Prereq: SPA 371; SPA 464a may be taken concurrently. Auditory training, speech reading and language training for the aurally handicapped.
- 464a,b,c CLINICAL PRACTICE IN AURAL REHABILITATION (2 ea)
Prereq: SPA 459, 463, or permission of instructor and a minimum of 25 hours of documented speech-language pathology/audiology/aural rehabilitation observations. Supervised clinical practice in the rehabilitation of the hard of hearing.
- 465 SIGN LANGUAGE OF THE DEAF (3)
Prereq: SPA 354 or permission of instructor. Introduction to the theory and practice in use of the manual language methods with the hearing impaired.
- 465a INTERMEDIATE SIGNING (2)
Prereq: SPA 465. Theory and practice of total communication; intermediate sign language.
- 466 MEDICAL AUDIOLOGY (3)
Prereq: SPA 371. Pathologies of the hearing mechanism and their auditory manifestations. Discussion with physicians regarding diagnosis, referrals and report writing.
- 468a,b,c CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)
Prereq SPA 371, 462, and a minimum of 25 hours of documented speech-language pathology/audiology/aural rehabilitation observations. Supervised clinical practice in audiological evaluation
- 499a,b FIELD PLACEMENT/OBSERVATION IN SPEECH-LANGUAGE PATHOLOGY OR AUDIOLOGY (1-6)
Prereq. completion of the undergraduate major requirements and permission of department. Off-campus field experience in an approved setting designed to develop clinical competencies in the management of communication disorders. S/U grading.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 502 BEHAVIORAL RESEARCH IN SPEECH PATHOLOGY AND AUDIOLOGY (3)
Introduction to empirical research design, statistics; basic methodology applied to current research in communication and speech.
- 510 ORGANIC DISORDERS (3)
Prereq. SPA 450, 459 or equivalent, or permission of instructor. A survey of speech disorders; identification, classification and fundamentals of therapy for cerebral palsied and cleft palate individuals.
- 515 SEMINAR: PHONOLOGY (3)
Prereq: SPA 373. Current topics and issues on normal and disordered phonology, with special emphasis on clinical implications.

Speech Pathology/Audiology

- 550 VOICE DISORDERS AND THERAPY (3)
Prereq: SPA 351, 352, 450 or their equivalent, or permission of instructor. Pathological and psychological states affecting voice production. Functional psychogenic and organic problems of pitch, quality, loudness. Experience in diagnosis and evaluation of voice disorders. Developing techniques and methods for treatment and therapy.
- 551 SURVEY OF SPEECH PATHOLOGY AND AUDIOLOGY (3)
A survey of recent concepts, issues, techniques and methods in speech-language pathology and audiology.
- 552 ADVANCED DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY (3)
Prereq: SPA 452, 558 and permission of instructor. Specialized methods, tests and instruments used in diagnosis of more complex morphological and neuropathological disorders; discussion of current diagnostic literature.
- 552a PRACTICUM IN DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY (2)
Prereq: SPA 452, 558 and permission of instructor. On-campus practicum using specialized methods, tests and instruments used in diagnosis of more complex morphological and neuropathological disorders.
- 552b PRACTICUM IN DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY (2)
Prereq: SPA 452, 558 and permission of instructor. Off-campus practicum using specialized methods, tests and instruments used in diagnosis of more complex morphological and neuropathological disorders.
- 553 LANGUAGE DISORDERS (3)
Prereq: SPA 354, 361, or permission of instructor. Atypical speech and language acquisition with special focus on current research findings and management techniques.
- 554 STUTTERING (3)
Prereq: SPA 454 or equivalent. Critical analysis of recent research findings relating to stuttering and cluttering disorders; chief rationale for therapy and evaluation of therapy procedures and results.
- 555 ADVANCED STUDIES IN LANGUAGE DEVELOPMENT IN CHILDREN (3)
Experimental findings and theoretical interpretations of normal speech and language acquisition with an emphasis on studies in phonology, syntax, semantics and pragmatics; origins and growth of cognitive and social processes; factors influencing learning of speech and language.
- 556 APHASIA (3)
Prereq: SPA 450, 456 or equivalent. Diagnosis and treatment of language-impaired adults with specific brain injury patterns; aphasia, apraxia, dysarthria.
- 557 ADVANCED SPEECH PATHOLOGY (3)
Diagnosis and treatment of laryngectomies, motor speech disorders and traumatic brain injury. Discussion of issues relating to communication and aging.
- 558 ADVANCED CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (1-3)
Prereq: permission of instructor. Supervised clinical practicum. Must be completed with a grade of B- or better. Repeatable to 9 credits.
- 559 SPEECH-LANGUAGE PATHOLOGY PRACTICUM (2)
Prereq: permission of instructor. Must be completed with a grade of B- or better.
- 560 SPEECH-LANGUAGE PATHOLOGY PRACTICUM (2)
Prereq: permission of instructor. Must be completed with a grade of B- or better.
- 561 ADVANCED AUDIOLOGY I (3)
Prereq: SPA 371 or permission of instructor. Study of basic auditory correlates and audiometric procedures.
- 562 ADVANCED AUDIOLOGY II (3)
Prereq: SPA 462, 561. Theory and application of advanced diagnostic audiometric procedures.
- 563 SEMINAR: AURAL REHABILITATION (3)
Prereq: SPA 463 or permission of instructor. Issues related to the hearing-impaired population.
- 564a,b,c ADVANCED CLINICAL PRACTICE IN AURAL REHABILITATION (2 ea)
Prereq: SPA 458, 463, 464a,b,c or permission of instructor. Supervised practice in rehabilitation of the hard of hearing. Must be completed with a grade of B or better.
- 565 PSYCHOACOUSTICS (3)
Prereq: SPA 561 or permission of instructor. Application of standard psychophysical techniques and theory of signal detection to audiologic research.
- 566 BIOACOUSTICS (3)
Prereq: SPA 561 or permission of instructor. The ear as a transducer and analyzer; electrophysiological and mechanical properties of the ear.

567 SEMINAR: HEARING CONSERVATION (3)

Prereq: SPA 562. Discussion of federal and state noise regulations. Cause and treatment of noise-induced hearing loss; the role of audiology in prevention and control of noise.

568a,b,c,d,e ADVANCED CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)

Prereq: SPA 371, 462 or permission of instructor; to be taken in sequence. Clinical practicum designed to advance skills in audiology. Must be completed with a grade of C or better.

570 THE HEARING-IMPAIRED CHILD IN THE CLASSROOM (3)

Prereq: permission of instructor. The unique problems of the mainstreamed hearing-impaired child in the classroom; methods and techniques of working with this population.

571 HEARING AIDS (4)

Prereq: SPA 462 or permission of instructor. History, development and description of hearing aids. Research into the electroacoustic characteristics of hearing aids. Evaluation procedures and fitting techniques of hearing instruments. Auditory training techniques. Lab required.

572 SEMINAR: ELECTROPHYSIOLOGICAL TESTING (3)

Prereq: SPA 561, 566, 568a or permission of instructor. Current topics and issues in specialized areas of averaged electroencephalic audiometry; research trends and problems. Lab required.

574 SPEECH PERCEPTION (3)

Prereq: SPA 353. Study of laboratory investigations of phonetic problems; analysis and measurement of variables in speech production, reception and perception.

575 INTERVIEW AND CONSULTATION (3)

Prereq: SPA 552, 558, 564a,b,c, 568a, or permission of instructor. Theories and techniques of the interview and consultation process for communication disorders.

575a CLINICAL PRACTICUM IN INTERVIEW AND CONSULTATION (2)

Prereq: SPA 575 or permission of instructor. Supervised clinical practicum.

577 PEDIATRIC AUDIOLOGY (3)

Prereq: SPA 371, 462, 568a or permission of instructor. Developmental milestones of auditory function, implications of childhood hearing loss and supervised testing of pediatric patients utilizing basic and advanced testing techniques.

580 COMMUNICATION DISORDERS IN THE PUBLIC SCHOOLS (2)

Prereq: SPA 351 or permission of the instructor. Role of the professional in organizing and directing a speech-language therapy program in the public school setting. Required for CDS track.

592 ADMINISTRATION OF SPEECH-LANGUAGE AND HEARING PROGRAMS (3)

Students enrolling must be within two quarters of program termination. Analysis of program funding; administrative structures within schools, hospitals and clinics. A project report will be required in this course. This report may be used to help satisfy the non-thesis requirement.

596 SUPERVISION IN COMMUNICATION DISORDERS (3)

Prereq: permission of instructor. Perspectives of the supervisory process. Theories, practices and techniques from this and other disciplines serve as a basis for discussion, implementation and evaluation. Lab required.

598a,b INTERNSHIP IN THE PUBLIC SCHOOL SETTING (8 ea)

Prereq: completion of the graduate major course requirements, permission of the department, demonstrated proficiency in clinical skills, and a minimum of 200 supervised clinical clock hours. SPA 598a is prerequisite to 598b. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of communication disorders in an approved public school setting. (Only 3 credits of SPA 598a and 3 credits of 598b are applicable toward the M.A. degree—see "Requirements in Specialization.") S/U grading.

599a,b INTERNSHIP IN THE CLINICAL SETTING (8 ea)

Prereq: completion of the graduate major course requirements, permission of department, demonstrated proficiency in clinical skills and a minimum of 200 supervised clinical clock hours. SPA 599a is prerequisite to 599b. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of communication disorders in an approved clinical setting. (Only 3 credits of 599a and 3 credits of 599b are applicable toward the M.A. degree—see "Requirements in Specialization.") S/U grading.

690 THESIS (6-9)

691 NON-THESIS OPTION (3)

Prereq: SPA 502. Writing based on research or clinical projects. This report to be used to help satisfy the non-thesis requirement.

Student/Faculty-Designed Major

Students whose educational objectives are best served by combining courses from several academic or professional areas may, in consultation with appropriate faculty members, design an individualized major leading to a Bachelor of Arts or Bachelor of Science degree in the College of Arts and Sciences.

This major takes the form of a contract for an individualized course of study. The course of study may include courses from any department, program or college at Western that is open to the student and for which the student is qualified. The contract is developed by the student and an advisory committee of faculty appointed from the departments that contribute courses. The contract is reviewed by the Curriculum Council of the College of Arts and Sciences.

The major requires a minimum of 70 credits and permits a maximum of 110 credits. No more than 50 percent of the credits may be completed before the contract is reviewed by the Curriculum Council. The contract may not substantially duplicate a major that is regularly offered by a department or college at Western.

Individual programs may be academic in emphasis, vocational, or both. Regardless of emphasis, the program of courses should be logically coherent and academically defensible in relation to its educational objectives. Like all majors, the SFDM should encompass both breadth and depth, the latter being represented by 300- and 400-level courses. The student is responsible for meeting prerequisites to courses included in the contract. Directed independent study and field internships may be included, subject to University regulations. Courses taken elsewhere, if transferrable to Western, may be included with the advisory committee's approval. Ordinarily, a student should apply for the major at the beginning of the junior year.

The Student/Faculty-Designed Major is administered by the Department of Liberal Studies. Contact the department for full information about procedures to be followed. Make an appointment with the department chair for initial advisement. The departmental office is Arntzen Hall 314, phone (206) 676-3031.



Technology

Programs in:

Electronics Engineering Technology
Industrial Design
Industrial Technology
Manufacturing Engineering
Technology
Plastics Engineering Technology
Technology Education
Visual Communication
and home of the
Vehicle Research Institute

The Department of Technology offers seven academically excellent programs to prepare graduates for rewarding professional careers.

All of the programs present a balanced mix of theory and practice. Almost every departmental course has an associated laboratory where students work with modern equipment of the type and quality normally found in the workplace.

Technology graduates, faculty and programs have excellent and well-earned regional and national reputations. The vehicles and engines produced by WWU's Vehicle Research Institute have gained international recognition for the University.

The amount and level of mathematics and science courses required in the engineering technology programs (electronics, manufacturing and plastics) is substantial, and a strong high school background is recommended for majors. The programs in industrial design, industrial technology, technology education and visual communication are demanding and rigorous but require less math and science.

TECHNOLOGY FACULTY

- F. DAVID HARRIS (1990) Director of Technology.
Professor. BSEE, Newark College of Engineering; MAT (Physical Sciences), Rhode Island College; MSEE, Rensselaer Polytechnic Institute; Registered Professional Engineer.
- ROBERT D. EMBREY (1971) Professor. BA, MA, MFA, University of Oregon.
- DIANA FAIRBANKS (1986) Assistant Professor. BA, BFA, Fort Wright College; MEd, EdD, University of Washington.
- THOMAS GRADY (1986) Associate Professor. BA, BS, MSEE, University of Colorado.
- CLYDE M. HACKLER (1974) Associate Professor. BS, Eastern Kentucky University; MEd, University of Illinois; EdD, University of Maryland.
- KATHLEEN L. KITTO (1988) Assistant Professor. MSME, BS, Montana College of Mineral Science and Technology.
- JOHN KUTZ (1990) Assistant Professor. BS, Western Washington University; MS (Materials Engineering), Drexel University.
- WINSTON MIH (1990) Professor. MS, Kansas State University; PhD, University of Missouri-Columbia; FAIC, CChE, The American Institute of Chemists.
- TODD MORTON (1988) Assistant Professor. BSEE, MSEE, University of Washington.
- STEVE MOSKOWITZ (1984) Associate Professor. BEE, MEE, Rensselaer Polytechnic Institute.
- FRED A. OLSEN (1961) Professor. BS, University of Washington; MS, Stout State University; PhD, The Ohio State University.
- ROBERT A. RAUDEBAUGH (1988) Assistant Professor. BS, MA, Northern Arizona University; EdD, Arizona State University.
- MICHAEL L. REED (1989) Assistant Professor. BS, California State University at Los Angeles; MA, California State University at Long Beach.
- MICHAEL SEAL (1968) Professor. BEd, University of British Columbia; MEd, Western Washington State College; EdD, Texas A & M University.
- ELSI M. VASSDAL-ELLIS (1977) Professor. BS, MEd, Western Washington State College; PhD, University of Washington.
- RICHARD F. VOGEL (1971) Associate Professor. BA, MAT, Washington State University; EdD, Texas A & M University.
- DAVID WERSTLER (1986) Assistant Professor. BSME, Purdue University; MSME, Colorado School of Mines; MBA, Xavier University; Registered Professional Engineer.
- CHARLES E. YUNGHANS (1988) Associate Professor. BSEE, Valparaiso University; MSEET, Western Michigan University.

Technology

Adjunct Faculty

ROBERT HOLLINGSWORTH (1986) BA, Drake University, MBA, University of Oregon.

INDLE G. KING (1987) BA, MA, University of Washington

DECLARATION OF MAJOR

Students who intend to complete a major in the department are urged to declare the major as early as possible so that a program of study can be planned in collaboration with a departmental adviser. This does not in any way decrease the opportunity to change plans, but does ensure an efficient program which is not subject to future catalog revisions.

For further information, contact the Department of Technology, Ross Engineering Technology Building, Room 204.

BACCALAUREATE PROGRAMS

The department administers six undergraduate programs that lead to the Bachelor of Science degree: electronics engineering technology; industrial design; industrial technology; manufacturing engineering technology; plastics engineering technology; and technology education. The course of study in visual communication leads to the Bachelor of Arts degree.

BACHELOR OF SCIENCE

ELECTRONICS ENGINEERING TECHNOLOGY

The electronics engineering technology program prepares engineering technologists who understand and can apply established scientific and engineering knowledge and methods in combination with technical skills of modern technology to support engineering activities. Students are pro-

vided with a strong concentration of both classroom instruction and practical hands-on laboratory design and testing experiences. Graduates are qualified for application positions in electronic systems analysis and design, product design and development, technical sales and service, and field engineering operations and maintenance.

Western offers all four years of the Bachelor of Science degree program in electronics engineering technology on-campus in Bellingham. The last two (junior/senior) years are also offered in the evening, off-campus in North Seattle. On-campus students complete a structured sequence of courses averaging 16-17 credits per quarter over a period of four academic years, whereas off-campus students complete the junior and senior years of the program by taking 8-9 credits per quarter over three calendar years. Certain community colleges within the state have established two-year associate degree transfer programs with Western that satisfy all of the prerequisites for the junior year. Students transferring to Western from one of these programs or students having obtained equivalent backgrounds elsewhere may begin the junior year of the program either on-campus or off-campus.

Students desiring to begin studies in EET on-campus should follow the normal admissions procedure of the University. Students desiring to attend the off-campus program should also make application to the Office of Admissions but must indicate their intention to attend in North Seattle. University enrollment quotas do not apply to the off-campus program.

Students desiring to begin studies in electronics engineering technology must first be accepted as majors by having their backgrounds evaluated by the Technology Department at Western Washington University. Admission to the University does not guarantee acceptance into either of

the two programs. A fixed number of students will be selected as majors in each program at specific times during the year. Detailed information about the programs, preliminary consultations and advising, policies for acceptance as a major, and procedures and dates for applying are available in the Technology Office and will be mailed to prospective students upon request.

Both the on-campus and off-campus components of Western's electronics engineering technology program in Bellingham and North Seattle are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

Major — Electronics Engineering Technology

149 credits

Electronics Core: 94 credits

- Tech 110, 271, 272, 273, 274, 371, 372, 373, 374, 375, 376, 378, 379, 405, 455, 457, 471, 474, 475, technical electives

Supporting Courses: 55 credits

- Mathematics — 21 credits: Math 104, 105, 124, 125, 321
- Physics — 15 credits: Physics 114, 115, 116 or 121, 122, 123, 125
- Communications — 9 (+ 4 = 13) credits: Eng 402, Comm 101, communications elective (plus four additional communication credits in Eng 101 which is a required GUR)
- Computer Science — 6 credits: CS 210, 215c

INDUSTRIAL DESIGN

The Bachelor of Science degree program in industrial design provides an interdisciplinary course of studies that prepares graduates for professional careers as designers, planners, managers, illustrators, or specialists in the areas of industrial production, design education or marketing.

Advisement

Early consultation with the adviser of the industrial design program is essential.

The number of majors accepted into the junior professional practice series of courses is restricted, as is the number of majors advancing to the senior professional practice series. A professional review of the student's previous work is among the factors that determine acceptance.

Major — Industrial Design

107 credits

- Basic Core: Industrial Design/Technology — 37 credits: Tech 110 or 210, 211, 215, 216, 223, 309, 311, 323, 333a or 333
- Sophomore Portfolio Review for Junior Professional Practice Series — 15 credits: Tech 314a, 314b, 314c
- Junior Portfolio Review for Senior Professional Practice Series — 15 credits: Tech 414a, 414b, 414c
- Tech/Art Electives — 6 credits
- Supporting Courses — 34 credits: FMDS 330, Art 120, 130, 201, 202, 230, 370, recommended options; see adviser (include 12 credits, i.e. Art 250, 320, 378, 379)

INDUSTRIAL TECHNOLOGY

Industrial technology prepares graduates to enter supervisory and management levels of technical industries. The major provides a general understanding of tools, materials and processes used in industry, a fundamental supporting background in business and/or economics and depth in some technical area or industry. Positions taken by recent graduates include tool and production planning, material control and tool illustrator.

Major — Industrial Technology

110 credits

- Core Courses — 69 credits (required of all IT majors): Tech

Technology

210, 220, 223, 251, 323, 333, CS 110, Math 104, 105, Chem 115, Physics 114, 115, Econ 206, Acctg 241, Mgmt 271, 311

- Specialization — 41 credits (complete one of the following specializations with guidance from a departmental adviser):
 - Industrial Graphics: Tech 211, 214, 240, 309, 310, 311, 312, 313, 8 credits of electives
 - Industrial Supervision: Tech 322, 327, 328, 423, FMDS 255, 330, Mgmt 322, 460, 463, 465, 4 credits of electives
 - Vehicle Design: Tech 280, 281, 311, 334, 380, 381, 382, 400(1), 480, 484, 486
 - Specialization by advisement

Minor — Industrial

Technology 25 credits

Courses to be selected under departmental advisement.

MANUFACTURING ENGINEERING TECHNOLOGY

Manufacturing engineering technology prepares engineering technologists who understand and can apply established scientific and engineering knowledge and methods in combination with technical skills of modern technology to support engineering activities. Career fields of the manufacturing engineering technologists include development and testing of new products, computer-aided manufacturing, robotics, cost analysis, production supervision and management, marketing and technical support, production process control, manufacturing support, and technical sales and service.

Prospective students are encouraged to include physics, chemistry and mathematics in their high school preparation. University-level physics, computer science, precalculus and calculus must be taken during the first two years to ensure that junior-level course prerequisites are completed.

Certain community colleges offer the first two years as direct transfer. Therefore, it is necessary for interested students to seek early advisement from the Department of Technology.

Since the manufacturing engineering technology degree requires a total of 200 credits, students should anticipate that they will require more than four years to complete this program or need to carry an average of 16-17 credits per quarter for four years in a prescribed sequence of courses.

The manufacturing engineering technology degree program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

Major — Manufacturing Engineering Technology

151 credits

- *Manufacturing Core:* 90 credits
Tech 110, 111, 220, 221, 222, 223, 224, 225, 251, 321, 322, 326, 327, 328, 333, 352, 354, 420, 421, 422, 423, 424, technical electives (9 credits)
- *Supporting Courses:* 61 credits
 - Mathematics, 20 credits: Math 104, 105, 124, 125, 240
 - Computer Science, 4 credits: CS 210
 - Business, 8 credits: Mgmt 460, 463
 - Physics, 15 credits: Physics 121, 122, 123, 125
 - Chemistry, 5 credits: Chem 115
 - Communication, 10 credits: Comm 101, Eng 402, elective (plus 4 additional communication credits in Eng 101 which is a required GJR)

Careful selection of elective courses may qualify the manufacturing engineering technology graduate for entry into the Master's in Business Administration degree program. Consult with adviser.

PLASTICS ENGINEERING TECHNOLOGY

Plastics engineering technology prepares engineering technologists who understand and can apply established scientific and technical knowledge and methods in combination with technical skills of modern technology to support engineering activities.

The curriculum consists of courses directly related to polymeric materials and processing as well as extensive supporting course work in chemistry, physics, mathematics, computer science, communication, economics and business administration.

Throughout the course sequence, emphasis is placed on chemical, scientific and engineering technology principles as well as practical experiences in the analysis, testing and evaluation of polymer materials; product design and development; hands-on experience in plastics molding, reinforcing, fabrication and finishing processes; analysis, control and optimization of production processes; design and development of production tooling; and applied research.

In addition to their technical background, students deal with a variety of management skills related to planning, problem solving, quality assurance, cost analysis, communication skills and human relations.

Career fields of the plastics engineering technologist include design and development of plastics products—material research and evaluation, product and tooling design, quality assurance, manufacturing process analysis, production coordination, marketing and technical support.

For graduation with a Bachelor of Science degree in plastics engineering technology, a total of 198 credits are required.

Major — Plastics Engineering Technology

149 credits

- *Plastics Core:* 94 credits
Tech 110, 111, 220, 223, 224, 225, 251, 322, 323, 333, 334, 335, 336, 337, 423, 433, 434, 435, 436, Chem 308, technical electives (20 credits)
- *Supporting Courses:* 55 credits
 - Mathematics, 17 credits: Math 105, 124, 125, 240
 - Physics, 10 credits: Physics 114, 115
 - Chemistry, 15 credits: Chem 121, 122, 123
 - Communication, 9 (+ 4 = 13) credits: Comm 101, Eng 402, Communication elective (plus 4 additional communication credits in Eng 101 which is a required GUR)
 - Computer Science, 4 credits: CS 210

TECHNOLOGY EDUCATION

The teacher preparation program has been offered for over 80 years and is a traditional strength at Western. The program prepares teachers of technical subjects for the junior and senior high schools and has been approved by the Office of the Superintendent of Public Instruction. Most graduates also meet the certification requirements for vocationally-approved programs.

Major — Technology Education 78-82 credit minimum plus supporting courses

- *Breadth Requirement:* 31-32 credits as follows: Tech 210, 212, 213, and five of the following courses — Tech 218, 223, 231, 240, 280, 323, 333a
- *Depth Requirement:* 12 credits in Technology, of which 10 must be at 300-400 level

Technology

- Professional Block: 15 credits — Tech 391, 488, 491, 493, 494, 496
- Supporting Courses: 17-20 credits — one approved course from each of the following: physics, chemistry, computer science, college trigonometry, college algebra (Math 105 recommended)

NOTE: To expand teaching eligibility, technology education majors should seek additional certification endorsement. Some of the courses for additional certification may be included in the GUR and the technology education major or may be taken after graduation.

The professional block courses are to be taken simultaneously in the spring quarter just prior to the student internship. The courses are taught on a competency-based model, with pedagogical, technical, managerial and professional competencies listed for achievement by candidates. Through problem-solving activities in a school technology education laboratory setting, students demonstrate competency to an acceptable level and will not receive credit for course work until such competence is clearly shown. Technology education majors do their internship only in the fall quarter.

BACHELOR OF ARTS

VISUAL COMMUNICATION

The Bachelor of Arts degree program in visual communication is designed to prepare graduates to enter industry as production, supervisory, or management personnel in the field of visual communication. Certification at the secondary level also may be earned through additional course work in technology education and the College of Education. Early consultation with a visual communication program adviser is essential.

Admission

The visual communication program

is experiencing significant enrollment pressures which have made the implementation of selective admission procedures necessary. For admission to the program, a student must have completed Tech 241, 260 and 340 with a minimum GPA in each course of 2.7; present a portfolio of visual communication-related work; and submit a letter of intent. Applications for admission must be made directly to the coordinator of the visual communication program.

Major — Visual

Communication 85 credits

- Visual Communication core (required of all majors):
 - Art 101, 120, Art Hist 240
 - Tech 240, 241, 242, 260, 340, 341, 343, 346, 441, 447, 448
- Elective courses to satisfy concentration requirements (two concentrations; 25-30 credits):
 - Video Production: Tech 342, 442, Comm 340, 397, 440, 442
 - Graphic Design/Design Production: Tech 348, Art 270, 371, 470, 471, 472
 - Illustration: Art 376, 378, 379, 475
 - Computer Graphics: Tech 323, 443, Art 373, 474
 - Photography/Multi-Media: Tech 342, 344, 360, 363, 444
 - Graphic Arts Production/Management: Tech 347, 348, 440, Mgmt 311
 - Professional Writing (courses under advisement): journalism core, English core, script writing core (communication or theatre arts)
- Directed research credits, Tech 449 (1-9), may be used to complete an area of concentration; only 9 credits of directed research may be applied towards graduation.
- Internship credits, Tech 445 Internship (1-12), may be used to complete an area of concentration but may not substitute for an area.

Teacher Education Program

Students enrolling in the visual communication program for teacher certification must complete the requirements for the Bachelor of Arts program described above, satisfy the professional education requirements, and complete Tech 391, 488, 491, 493, 494 and 496 prior to student teaching. This program might require three or more additional quarters to complete.

GRADUATE STUDY

For a concentration leading to the Master of Education degree, see the Graduate School section of this catalog.

COURSES IN TECHNOLOGY*

Courses numbered X37; X97: 300, 400; 417, 445 are described on pages 38-39 of this catalog.

**Most technology courses with a laboratory have a materials fee.*

- 101 INTRODUCTION TO TECHNOLOGY (4)
Explores the engineering and technology behind the machines and devices that most modern Americans take for granted. Topics from electronics, materials technology, robotics, computer-aided design, power and other areas of technology are studied in the classroom and in the laboratory.
- 110 ENGINEERING GRAPHICS I (4)
Introductory level engineering drawing. First of two courses. Includes orthographic projection, pictorial drawing and sketching, scales, dimensions, sections and auxiliary views. Introduction to computer-aided drafting.
- 111 ENGINEERING GRAPHICS II (4)
Prereq: Tech 110 or equivalent, CAD-based second course in engineering graphics. Includes engineering tolerance specifications, working drawings, assemblies, piping, welding, bills of material, print interpretation and reproduction methods.
- 210 INDUSTRIAL GRAPHICS I (5)
Introduction to basic concepts of technical communication in industry through freehand sketching and instrument drawing of three-dimensional objects. Introduction to team dynamics through creative problem solving.
- 211 INDUSTRIAL GRAPHICS II (4)
Prereq: Tech 210 or equivalent. Preparation of working and assembly drawings of machine parts with emphasis on individual creative problem solving through tolerance and positional dimensioning, auxiliary views, sections and use of product catalogs to select and size components.
- 212 INTRODUCTION TO TECHNOLOGY FOR EDUCATORS (3)
The areas of information, physical, biological, and power and energy technologies are explored through the application of design/problem-solving activities which engage students in first-hand experiences with technology.
- 213 DESIGN DEVELOPMENT FOR TECHNOLOGY EDUCATION (3)
Prereq: technology education major or permission of the instructor. Basic design fundamentals applied to technology education teaching. Development of creativity with application to school projects and design problems.
- 214 FUNDAMENTALS OF PRODUCT DESIGN (5)
Basic aesthetics of form, color and space in variety of media, includes two- and three-dimensional design along with historical expression. Considered preliminary to design courses with graphic media, material sciences and industrial design.
- 215 EVOLUTION IN INDUSTRIAL DESIGN (3)
Interrelationship with the arts, sciences, and society; designers, their philosophies and resultant impact on culture.
- 216 SOPHOMORE INDUSTRIAL DESIGN (5)
Prereq: Art 120 and 130, or permission, Tech 210 or equal experience. Idea generation techniques include exploration in aesthetic judgment, fabrication of models, basic mechanics, geodesics, color for production and product history. Projects are designed to stimulate imagination and creatively coordinate with production requirements.
- 218 CONTROL TECHNOLOGY (4)
Includes theory and application of mechanical, fluid, electrical, electronic and computer instrumentation and regulation in the design and operation of technical operations and systems through a balance of research and hands-on activities

Technology

- 220 MATERIALS TECHNOLOGY (5)
Prereq: Math 104 and 105, Physics 114, and Chem 115 or 121. The structure and properties of industrial materials. While emphasizing metals, non-metals are studied. Laboratory.
- 221 WELDING (3)
Prereq: Tech 220. Basic concepts in welding to include shielded metal arc welding, oxy-acetylene welding, welding symbols, heat treatment, soldering and brazing, survey of processes.
- 222 FOUNDRY AND FORMING (3)
Prereq: Tech 221. Survey of the principles and practices employed in contemporary metal-casting and forming industries. Emphasis is placed on applications of the concept of design for manufacturability.
- 223 MACHINE METAL PROCESSES (5)
Prereq: Tech 110 or 210, Math 105. Basic concepts and skills in machine metal processes; shaping metal by machine tools, chipless machining, automation of machine tools and cold forming processes.
- 224 APPLIED STATICS (3)
Prereq: Physics 114, Math 104 or 105. Elementary statics; analysis of forces and movements in trusses, frames and other rigid bodies.
- 225 STRENGTH OF MATERIALS (4)
Prereq: Tech 220, 224, Math 125. Internal response of structural members to forces; principal stresses and strains; and combined stresses.
- 231 DESIGN PROBLEMS IN WOODWORKING (4)
Prereq: Tech 210 recommended. Technology education majors are given priority enrollment. Wood as a material for solving a variety of design problems.
- 240 A SURVEY OF VISUAL COMMUNICATION (4)
A survey of communication through visual media with emphasis on print, photographic and electronic media; historical and cultural significance of visual communication media; exploration and development of basic visual literacy skills.
- 241 VISUAL COMMUNICATION I (4)
Prereq: written permission. Application of visual communication theory, information design, reproduction, and presentation in print and non-print media.
- 242 COPY PREPARATION AND PASTE-UP (3)
Prereq: visual communication major or pre-major status, art major, or written permission. Preparation of line and tone copy for commercial reproduction processes; preparing single- and multi-color mechanicals; copy preparation and specifying; production planning.
- 250 BASIC ELECTRICITY (4)
Principles and concepts of electricity; laboratory experiences with electrical components, circuits and measurement equipment. May not be taken by EET or MET majors for credit.
- 251 ELECTRICAL TECHNOLOGY I (4)
Prereq: Physics 115 or 123; Math 105; IT, MET, PET major or written permission. Electrical concepts, elementary circuit analysis, introduction to electronic devices, introduction to AC and DC machines, applications of discrete electronic devices. Laboratory experiments stressing electrical and electronic measurements. (For non-EET majors.)
- 260 GENERAL PHOTOGRAPHY (4)
Fundamentals of film developing, enlarging, print finishing. Basic elements of black and white composition and visualization.
- 271 CIRCUIT ANALYSIS I (4)
Pre- or co-req: Math 102, EET major or written permission. Fundamental properties of electrical components and their use in DC and AC circuits. Use of basic laws and theorems in circuit analysis and design. Laboratory experiments with electrical components and circuits.
- 272 ELECTRONIC DEVICES AND CIRCUITS (4)
Prereq: Tech 271, EET major or written permission. A first course in electronic devices and circuits. Fundamental properties of semiconductor devices and their behavior in electronic circuits. Laboratory experiments in construction, testing, investigation and trouble-shooting.
- 273 DIGITAL ELECTRONICS (4)
Prereq: Tech 271, EET major or written permission. Introductory digital electronics with emphasis on basic digital concepts. Boolean algebra, digital integrated circuit devices and the major functional units from "building block" approach. Laboratory with applications, constructing, testing and troubleshooting of digital circuits.

- 274 **FUNDAMENTALS OF MICROPROCESSORS (5)**
 Prereq: Tech 273. EET major or written permission. Introduction to microprocessors and programming concepts. Study of structured programming, instruction sets, hardware and interfacing techniques. Laboratory experiments with popular units.
- 280 **POWER MECHANICS (5)**
 Design principles of major power sources; techniques of torque and power measurement. Chassis dynamometer testing and port air flow testing.
- 287 **POWER TRANSMISSION (5)**
 Principles and practices of mechanical and fluid transmission of power. Theory and practice of over-running clutches and rolling drag reduction testing.
- 309 **ENGINEERING DESCRIPTIVE GEOMETRY (4)**
 Prereq: Tech 210 or 211. Practical applications of concepts and principles of engineering descriptive geometry. Application of creative problem solving through term project.
- 310 **TECHNICAL ILLUSTRATION (3)**
 Prereq: Tech 210 or equivalent. Preparation of three-dimensional pictorial drawings including an introduction to rendering techniques.
- 311 **APPLIED PERSPECTIVE AND RENDERING (4)**
 Prereq: Tech 210. Tech 214 and 310 recommended. The techniques and skills in rendering of buildings, interiors, and products in perspective. Projects include a comprehensive study of perspective systems and shadow construction in various media. Intended to develop the student's ability to sketch informally and present formally ideas pertaining to the expression of architectural subjects, interiors, and products of industrial design.
- 312 **ADVANCED DRAFTING (3)**
 Prereq: Tech 211. Problems in machine drawing and linkage. Visitations to observe current drafting practices in industry.
- 313 **ARCHITECTURAL CONCEPTS AND RESIDENTIAL PLANNING (5)**
 Prereq: Tech 210. Historical development; considerations of design; analysis of needs; utilization of sites, preparation of plans.
- 314a **JUNIOR INDUSTRIAL DESIGN I (5)**
 Prereq: Tech 210, 211, 309, 311. Recommend all major requirements at the 200 level. Design as a process of problem solving; problem recognition, definition, resolution and presentation; analysis of market and motivational research techniques.
- 314b **JUNIOR INDUSTRIAL DESIGN II (5)**
 Prereq: Tech 314a and approval of adviser. Application of multi-view projections, pictorials, mock-ups and prototypes to the resolution of human factors design problems.
- 314c **JUNIOR INDUSTRIAL DESIGN III (5)**
 Prereq: Tech 314b. Professional product architecture projects in preparation for assembling a portfolio of imaginative product innovations for mass production in the future market place.
- 320 **ADVANCED MACHINE METAL PROCESSES (4)**
 Prereq: Tech 223, Tech 222 recommended. Advanced theory and skill development in machine metalworking. Includes product and process design, special tooling and machine tool operation.
- 321 **MACHINE DESIGN (4)**
 Prereq: Tech 225, Math 124, Physics 116. Design of components of machines (connections, bearings, gears, etc.) with an emphasis on industrial practices. Theoretical dynamics also is included.
- 322 **NUMERICAL CONTROL OPERATIONS (3)**
 Prereq: Tech 223 and one course in computer programming. This course provides students with the opportunity to actually program parts for NC manufacture and to set up and operate NC equipment using their own programs.
- 323 **COMPUTER-AIDED DRAFTING (4)**
 Prereq: Tech 110 or 210 and a course in computer programming. Current applications of computer graphics to produce graphs, orthographic view and pictorials. Use of digitizer tablets, CRTs, plotters and printers in conjunction with microcomputers.
- 325 **INDUSTRIAL METALLURGY (4)**
 Prereq: Tech 220. Production of the common metals from their ores, industrial processing, heat treatments and alloying, corrosion, failure analysis; properties of metals as related to manufacturing operations. Laboratory.

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- 326 FLUID POWER (4)**
Prereq: Math 125, Physics 115, Tech 224 and 352. Fluid properties, basic principles of pneumatic and hydraulic power components and systems, control techniques, and fluid system analysis and design.
- 327 MANUFACTURING ECONOMICS (3)**
Prereq: CS 101, Tech 223. Examines many techniques to factor cost into manufacturing decisions. Topics covered include capital allocation, product cost estimating, work measurement, value engineering and maintenance management. Projects require use of applications software and C programming.
- 328 OCCUPATIONAL HEALTH AND SAFETY (3)**
A basic study of industrial accident prevention considering the nature and extent of the accident problem. The role management must play in industrial safety and the information it must have to ensure an efficient, well-managed safety program. Includes an introduction to federal, state and local safety codes applying to materials, material handling, and equipment. Codes from Occupational Safety and Health Act (OSHA), National Fire Protective Association (NFPA), and Department of Transportation (DOT) will be used.
- 331 ADVANCED WOODS (4)**
Prereq: Tech 231. Skill and development in the more complex woodworking processes with related information on the woodworking industry.
- 333 POLYMER TECHNOLOGY (5)**
Prereq: Tech 110 or 210, Tech 220 (includes Physics 114 and Chem 115 or 121 as prerequisite). Polymer science and analysis of basic plastics materials; experience in product design, tooling, and processing of thermoplastic and thermosetting materials.
- 333a PLASTICS (5)**
Prereq: general chemistry course; Tech 210, TE or ID major or written permission. Polymer science and analysis of basic plastics; experience in product design, tooling and processing of thermoplastics and thermosetting materials. (For TE and ID programs only.)
- 334 REINFORCED PLASTICS/ COMPOSITES (5)**
Prereq: Tech 333. Polymer and reinforcement systems; material testing; mold design and development; laboratory involvement in reinforced plastics production processes.
- 335 TOOLING FOR PLASTICS PROCESSING (3)**
Prereq: Tech 333. Design and construction of various types of production molds that are used for processing plastics in final shape. Product design in relationship to molding techniques and various techniques and materials used to construct the molds will be the major units of study.
- 336 PLASTICS PRODUCT DESIGN (3)**
Prereq: Tech 333, 335. Design principles related to design of plastics products. Analysis of functional requirements, structural properties, aesthetic qualities and cost relationships. Experience in product design and material evaluation.
- 337 INDUSTRIAL FINISHING (3)**
Prereq: Tech 333. Introduction to industrial finishing materials and processes.
- 340 IMAGING REPRODUCTIONS I (4)**
Prereq: Tech 240, 241, and written permission of instructor. Graphic arts technology as related to reproduction of graphic design techniques, with specific application to offset and screen printing processes.
- 341 IMAGING REPRODUCTIONS II (4)**
Prereq: Tech 340 and written permission of instructor. Techniques, processes and products of the graphic arts industry; designing, reproducing, presenting and managing graphic materials.
- 342 VISUAL COMMUNICATION II (4)**
Prereq: Tech 240, 241, and written permission of instructor. Intermediate theory and procedures in multimedia; laboratory practice using visual communication media facilities.
- 343 TYPESETTING AND DESKTOP APPLICATIONS (4)**
Prereq: Tech 340 and written permission of instructor. Theory and practical typographic applications of computer typesetting and desktop systems.
- 344 FILM ANIMATION (3)**
Prereq: Tech 241, 260 and written permission of instructor. The theory and application of animation techniques in Super 8mm film or 16mm film.
- 346 DESIGN PRODUCTION (5)**
Prereq: Tech 340, 341, 343, and written permission of instructor. Principles and application of effective visual communication design and production techniques using both conventional and desktop applications.

- 347 SCREEN PRINTING REPRODUCTIONS (3)**
Prereq: Tech 340 and written permission of instructor. Concepts, techniques and procedures of commercial screen printing as they relate to graphic design.
- 348 PUBLICATIONS PRODUCTION (5)**
Prereq: Tech 341, 343, Tech 346 or Art 371, and written permission of instructor. History, theory and applications in design, layout and production of publications through printed media.
- 352 ELECTRICAL TECHNOLOGY II (4)**
Prereq: Tech 251; MET, IT, or PET major; or written permission. Introduction to digital electronics combinational and sequential logic, electrical transducers and instrumentation, industrial applications of analog and digital electronics. Laboratory experiments stressing applications of digital and analog integrated circuits. (For non-EET majors.)
- 354 BASIC MICROPROCESSOR CONTROL (5)**
Prereq: Tech 352; IT, MET, PET major; or written permission. Third in a three-course sequence designed for MET and IT majors. Study of the microprocessor and its use as the central element in control applications. Primary emphasis on programming of popular units. Laboratory experiences with control devices provided. May not be used for credit in EET program.
- 360 ADVANCED PHOTOGRAPHY (4)**
Prereq: Tech 260. Stresses photographic visualization and the development of personal style through concentrated studies of light and design, filters, the zone system, view camera, specialized materials and processes, archival processing.
- 363 COLOR PHOTOGRAPHY (4)**
Prereq: Tech 360. Fundamentals of color theory; techniques of producing color transparencies and prints.
- 371 CIRCUIT ANALYSIS II (5)**
Prereq: Tech 271, Math 105, EET major or written permission. A second course in DC and AC circuits with increased emphasis on mathematical techniques used in electrical circuit analysis and design. Use of network theorems, vector analysis techniques, polyphase circuits and additional topics. Structured laboratory with emphasis on measurement, theory and applications, test equipment, verification of circuit laws, data analysis and formal report preparation.
- 372 ELECTRONIC ANALYSIS AND DESIGN (5)**
Prereq: Tech 272, 371, EET major or written permission. A second course in electronic devices and circuits with increased emphasis on mathematical modeling and techniques used in analysis and design. Study of semi-conductor theory and devices, small and large signal amplifier configurations, hybrid- π models, frequency response and multistage circuits. Laboratory with emphasis on practical design, construction, testing and evaluation. Formal report preparation.
- 373 DIGITAL SYSTEMS (5)**
Prereq: Tech 273, 372, EET major or written permission. An upper-division course in digital system analysis and design including the study of sequential/state machine design techniques and applications using SSI, MSI and ASIC technologies. Laboratory projects with formal reports.
- 374 MICROPROCESSOR APPLICATIONS (5)**
Prereq: Tech 274, 373, EET major or written permission. Upper division study of microprocessors, support devices, and peripheral equipment and their integration into microcomputer systems. Study of various hardware configurations and interfacing techniques. Application-oriented laboratory experiments and design problems.
- 375 ELECTRONIC SYSTEMS (5)**
Pre- or co-req: Tech 372, EET major or written permission. A study designed to acquaint the student with the operation of electronic systems. Feedback systems, multiphase power systems and solid state control systems. Structured laboratory with emphasis on experimental verification of results, original design, data analysis and formal report preparation.
- 376 ELECTRICAL POWER AND MACHINERY (5)**
Prereq: Tech 372, EET major or written permission. A study of DC and AC motors and generators, transformers, power distribution systems and instrumentation. Laboratory investigation of characteristics of above components and systems.
- 377 ENGINEERING METHODS (4)**
Prereq: junior status, EET major or written permission. A study of the proper techniques to be used to obtain laboratory data and analyze results. Basic instrumentation and measurement techniques, error analysis, and grounding and shielding methods. Structured laboratory with formal report preparation.

Technology

- 378 NETWORK ANALYSIS (4)**
Prereq: Tech 371. Pre- or co-req: Math 321, EET major or written permission. General analysis of linear networks using classical methods, Laplace transforms and computer-aided methods. Topics include single element transients, first- and second-order circuits, transfer function analysis and Bode plots.
- 379 ACTIVE LINEAR AND NON-LINEAR CIRCUITS (5)**
Prereq: Tech 372, 378, EET major or written permission. Upper-division treatment of active linear and non-linear circuits. Analysis, design, testing and evaluation of electronic circuits and subsystems with primary emphasis on the application of integrated circuit components and modules. Computer modeling of complex electronic circuits with frequency response, sensitivity and worst-case analysis. Laboratory projects with formal report preparation.
- 380 ADVANCED POWER MECHANICS (3)**
Prereq: Tech 280. Efficiency determinants, power measurement, development of concepts introduced in Tech 280.
- 381 ADVANCED POWER TRANSMISSION (3)**
Prereq: Tech 281. Practical application of hydraulic and mechanical theory as applied to automatic transmissions.
- 382 AUTOMOTIVE ELECTRICITY (2)**
Prereq: Tech 280. Basic principles of electrical components and systems of the automobile and other engines.
- 384 TOOLING FOR LIMITED PRODUCTION OF MOTOR VEHICLES (5)**
Prereq: Tech 280 or permission of instructor. Concurrent enrollment in Tech 385 and 386. Methods of tooling and production for space frame type chassis and suspension systems. Study of jigs and fixtures for machine sawing of steel alloys and TIG welding of components.
- 385 TOOLING AND PRODUCTION METHODS FOR REINFORCED COMPOSITE VEHICLES (3)**
Prereq: Tech 280 or permission of instructor. Concurrent enrollment in Tech 384 and 386. Methods of tooling a glass or other fiber reinforced body for an automobile body.
- 386 ASSEMBLY AND TESTING OF LIMITED PRODUCTION AUTOMOBILES (2)**
Prereq: Tech 280 or permission of instructor. Concurrent enrollment in Tech 384 and 385. Assembly of suspension, steering, brakes, clutch drive line, engine and other related components to a limited production vehicle. Alignment and testing of assembled vehicle.
- 391 TECHNOLOGY AND HUMAN VALUES (3)**
Via films, lectures and discussion, various aspects of technology are examined for their impact upon the values of the individual and society.
- 402 COOPERATIVE WORK/STUDY (1-15)**
Prereq: junior status; approval of adviser. Supervised study of technical problems associated with production and/or management in business and industry. Credit varies according to individual employment circumstances, the degree requirements of the applicant and the extent to which employment is related to major.
- 403 PRODUCT DESIGN FOR TEACHERS (4)**
Prereq: teaching major. Product design fundamentals taught and analyzed, then translated to establish usable curriculum. Summers only.
- 405 COMMUNICATIONS CIRCUITS (4)**
Prereq: Tech 375; pre- or co-req: Math 321, EET major or written permission. A study of communications concepts including analog and frequency modulation and detection methods, r.f. amplifier and oscillator circuits and transmitter and receiver principles. Structured laboratory with emphasis on experimental verification of principles, use of specialized equipment, data analysis and formal report preparation.
- 411 CAD PERSPECTIVE AND RENDERING (2)**
Prereq: knowledge of orthographic views or Tech 210 and Tech 311 or perspective drawing experience. Computer perspective using the potential of CAD reproducibility and speed along with rendering.
- 413 ARCHITECTURAL PROBLEMS (3)**
Prereq: Tech 313. Advanced residential planning, cost estimating; FHA standards, building codes; individual and group research.
- 414a SENIOR INDUSTRIAL DESIGN I (5)**
Prereq: Tech 314a; and approval of adviser. Preparation of a portfolio of research sketches, working drawings and renderings in the creation of a mock-up or prototype of an original or modified product.
- 414b SENIOR INDUSTRIAL DESIGN II (5)**
Prereq: Tech 414a; and approval of adviser. Tectonic principles applied to consumer products, problems related to functional and emotional factors of environmental design involving space, structure, furniture and lighting and geodesics.

- 414c SENIOR INDUSTRIAL DESIGN III (5)**
Prereq: successful completion of Tech 414a and 414b. Senior professional practice in preparation for design applications within industrial communities. Portfolio development for employment opportunities.
- 418 DESIGN CENTER RESEARCH PROJECT (1-3)**
Prereq: Tech 214. Directed research in design under the auspices of the Western Design Center. May be taken three times.
- 419 DIRECTED RESEARCH IN DRAFTING/DESIGN (1-3)**
Prereq: Tech 211. Research problem in drafting or design conducted under supervision. May be taken three times.
- 420 INDUSTRIAL ROBOTICS (4)**
Prereq: Tech 322, 326, 354. Procedures for selecting the applications for industrial robots, for designing the workplace for industrial robots, and for programming and modifying existing industrial robots for these applications and workplaces.
- 421 COMPUTER INTEGRATED MANUFACTURING (3)**
Prereq: Tech 322. The computerized integration of all aspects of design, planning, manufacturing, distribution and management is discussed along with projects emphasizing hardware and software techniques to achieve integration.
- 422 MANUFACTURING PROJECT DEFINITION (1)**
Prereq: Tech 420; senior status in MET. Selection, definition and analysis of a problem suitable for senior project, prior to actual project development. Includes consideration of project parameters and implications, analysis of alternative solutions, and justification of selected solution. Culminates in writing of formal senior project proposal.
- 423 INDUSTRIAL QUALITY ASSURANCE (4)**
Prereq: CS 101 or equivalent, Math 240 or equivalent. Quality assurance as applied to industrial manufacturing operations. One-fourth of this course is used to enhance and expand on applied statistics.
- 424 MANUFACTURING IMPLEMENTATION (3)**
Prereq: Tech 422. Follow-up to Tech 422. Manufacture a product or design an industrial process. Project will be fully documented with performance specifications, functional description, schematics, cost analysis, parts list, photographs, diagrams and charts.
- 428 DIRECTED RESEARCH IN MATERIAL SCIENCE (1-3)**
Prereq: permission of instructor. Research under supervision in an area of material science. May be taken three times.
- 429 DIRECTED RESEARCH IN METALS (1-3)**
Research under supervision within one of the areas of metals technology. May be taken three times.
- 433 ENGINEERING POLYMERS (3)**
Prereq: Tech 333. Concepts of polymer science; study of structure, properties and applications of plastics materials; design and development of plastics tooling; analysis and experiences in thermoplastics molding and forming processes.
- 434 ADVANCED COMPOSITES (3)**
Prereq: Tech 333 and 334. Advanced polymer matrix and reinforcement systems; structural design and analysis; advanced composites processes and automated production systems.
- 435 INJECTION MOLDING (3)**
Prereq: Tech 333 and 433. Theory and practice of injection molding. Analysis of machine functions, processing parameters, production tooling, process control systems, quality assurance, automation. Extensive laboratory experience.
- 436 POLYMER COMPOUNDING (4)**
Prereq: Tech 333, 433, Chem 308. Principles of polymer formulation and modification. Additives and modifying agents. Laboratory experiences in polymer reactions and compounding. Mechanical, thermal and chemical analysis of polymer structures.
- 437 ADVANCED TOPICS IN POLYMER ENGINEERING TECHNOLOGY (3)**
Prereq: Tech 433, 434 and written permission. Special topics related to recent developments in polymeric materials and processes in advanced technological areas such as biomedical, microelectronics, environmental and aerospace.
- 438 DIRECTED RESEARCH IN PLASTICS (1-3)**
Prereq: Tech 333, 433 or 434 or 335. Selection, development and research, under supervision, within one of the areas of plastics engineering technology. Repeatable.
- 439 DIRECTED RESEARCH IN WOODS (1-3)**
Prereq: Tech 231, 331. Selection, development and research, under supervision, within one of the areas of wood technology. May be taken three times.

Technology

- 440 **COLOR REPRODUCTION AND THEORY (5)**
Prereq: Tech 341, 343, 346, and written permission of instructor. Theory and application of color reproduction processes for offset reproduction.
- 441 **VISUAL COMMUNICATION SERVICES MANAGEMENT (5)**
Prereq: Tech 341, 343, 346 and written permission of instructor. Estimating and pricing, simplified cost accounting, organization and administration of visual communication services; production, quality and color control instruments and techniques.
- 442 **ELECTRONIC NEWS GATHERING (2)**
Prereq: Comm 340 and written permission of instructor. Shooting on-location news stories and mini-documentaries. Stories to be aired as part of the "Western View" television newscast. Repeatable to maximum of 6 credits.
- 443 **ADVANCED COMPUTER GRAPHICS APPLICATIONS (5)**
Prereq: Tech 343, 346 or Art 371, and written permission. Current problems and advances in the computer graphics industry with applications to typography, imaging reproductions, desktop and illustration.
- 444 **MULTIMEDIA PRESENTATIONS (5)**
Prereq: Tech 241, 260, 342, and written permission of instructor. Concept development and production techniques for multimedia presentations for educational and professional purposes.
- 445 **VISUAL COMMUNICATION INTERNSHIP (1-12)**
Prereq: Tech 341, junior or senior major status, and written approval of adviser. Supervised field work in appropriate professional situations in the visual communication industry (print plants, TV studios, design agencies, film studios, type houses, service bureaus, publication houses, etc.). Credit varies according to individual employment circumstances.
- 447 **VISUAL COMMUNICATION III (3)**
Prereq: concurrent enrollment in Tech 448. Writing-intensive concentration on business communication forms related to visual communication activities.
- 448 **PORTFOLIO AND SENIOR PROJECT (3)**
Prereq: concurrent enrollment in Tech 447; completion of the visual communication sequence. Preparation and presentation of portfolio and resume; conceptual development, production and presentation of senior project in program concentration.
- 449 **DIRECTED RESEARCH IN VISUAL COMMUNICATION (1-9)**
Prereq: Tech 241, 340, 341. Selected problems in visual communication. Repeatable to a maximum of 9 credits.
- 455 **COMMUNICATION SYSTEMS (4)**
Prereq: Tech 405; pre- or co-req: Tech 378, EET major or written permission. Upper-division study of modern communications concepts from a systems point of view. Fourier transforms, spectral analysis, analog modulation and detection methods, transmission line theory, radiation and propagation, antennas, and microwave concepts. Structured laboratory with emphasis on measurement theory and applications, test equipment, data analysis and formal report preparation.
- 457 **AUTOMATIC CONTROL SYSTEMS (4)**
Prereq: Tech 376, Math 321, EET major or written permission. A study of analog control systems and techniques using operational mathematics. Laplace transforms, servo components, transfer functions, signal flow graphs, second-order systems, frequency response analysis, stability criteria and compensation. Laboratory investigation of control components and systems and computer modeling of control systems.
- 469 **DIRECTED RESEARCH IN PHOTOGRAPHY (1-3)**
Prereq: Tech 260. Research problems in photography chosen and conducted under supervision. May be taken three times.
- 471 **PROJECT DEFINITION (1)**
Prereq: Tech 374, EET major or written permission. Students define objectives and prepare project proposals for Tech 474. This course should be taken during the quarter immediately preceding Tech 474.
- 474 **MICROCOMPUTER-BASED DESIGN (4)**
Prereq: Tech 374, 471, EET major or written permission. Analysis and design of "smart" microcomputer-based instrument and control systems. Design and implementation of a microcomputer-based system.
- 475 **DIGITAL COMMUNICATIONS (4)**
Prereq: Tech 374, 455, EET major or written permission. An upper-division study of modern digital communications concepts and techniques. Topics include sampling, quantizing, digital modulation and detection methods, base-band signaling and line codes, bandpass signaling, synchronization and error detection. Several case examples are presented throughout the course.

477 PROCESS CONTROL TECHNOLOGY (5)

Prereq: Tech 373, 376. EET major or written permission. Study of elements, operations, and applications of process control. Emphasis on digital techniques of control. Analog signal conditioning, instrumentation circuits, A/D and D/A conversions, transducers, control elements, controller modes, computer supervisory control, stability, process loop tuning as well as cascade, ratio and other interactive concepts. Laboratory experiments on above.

478 AUTOMATED SYSTEMS DESIGN (5)

Prereq: Tech 374, Tech 477. EET major or written permission. Tech 457 recommended. Investigation of techniques utilized in automated inspection, automated test and measurement, automated manufacturing and robotics, and environmental control systems. Study of developments in robot vision systems and other current areas. Use of distributed data acquisition, host computer and control equipment in automated system design. Design and implementation of an automated system.

479 DIRECTED RESEARCH IN ELECTRONIC TECHNOLOGY (1-3)

Advanced study in problems chosen and conducted under supervision. May be taken three times.

480 ADVANCED EMISSION CONTROL (3)

Prereq: Tech 280 and 380. Experimental research in emission control on operating laboratory engines. Topics center around temperature control on NOx, new methods of optimizing stoichiometric combustion, and thermal and catalytic exhaust treatment.

484 VEHICLE DESIGN (5)

Prereq: Tech 280, 380 or permission of instructor. Suspension design; chassis design, spring rates, tire design parameters; automobile aerodynamics; brake system.

486 ADVANCED VEHICLE DESIGN (5)

Prereq: Tech 484. Advanced body design, ergonomics, aerodynamics, climate control, aesthetic design of automobile interiors and exteriors. Practical work will include wind tunnel model construction and testing.

488 TECHNOLOGY EDUCATION: SAFETY PRINCIPLES AND PRACTICES (2)

Basic course in safety practices for technology education teachers in grades 1-12 and for vocational teachers who must meet state certification requirements.

489 DIRECTED RESEARCH IN POWER MECHANICS (1-3)

Prereq: Tech 280, 381. Advanced study in problems chosen and conducted under supervision. May be taken three times.

491 HISTORY AND PHILOSOPHY OF VOCATIONAL EDUCATION (3)

Evolving issues, objectives, programs and legislation in vocational education.

493 TECHNOLOGY EDUCATION: METHODS (3)

Prereq: admission to technology education professional block. Competency-based approach to principles, practices and problems in teaching technology education and vocational laboratory courses.

494 TECHNOLOGY EDUCATION: CURRICULAR APPROACHES (3)

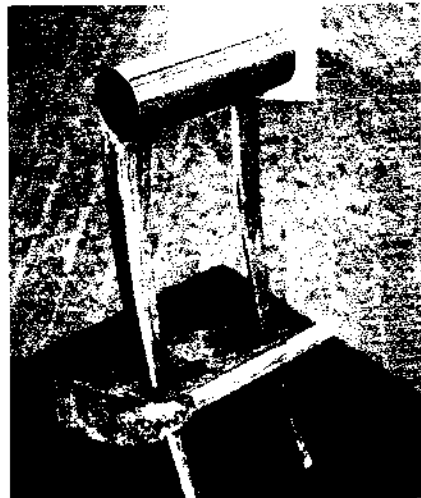
Prereq: admission to technology education professional block. An examination of the rationales, content and formats of the new technology education curricula, with strategies for change from traditional industrial arts.

496 COMMUNITY AND INDUSTRIAL RESOURCES (1-3)

A study of those resources available in the community and how they can be used to enhance the educational experience of students engaged in formal schooling.

499 SENIOR PROJECT (1)

Prereq: junior or senior status; technology major. The demonstration of competence in the major through a culminating project which presents a written, pictorial and photographic summary of work done in the major or of a comprehensive senior-level project.



Technology

Graduate Course

Courses numbered 500: 517: 545: 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

590 PRINCIPLES OF TECHNOLOGY I (5)

Prereq: teaching experience in physics or technology education or mathematics. A methods course for teachers preparing to teach the first year of the nationally validated high school course, "Principles of Technology." Involves introduction to science and technical content, the curriculum and support teaching materials, and experience with all laboratory experiments. **NOTE:** This course is not applicable to a master's degree.

591 PRINCIPLES OF TECHNOLOGY II (5)

Prereq: teaching experience in "Principles of Technology I." A methods course for teachers preparing to teach in the second year of the nationally validated high school course, "Principles of Technology." Involves introduction to science and technical content, the curriculum and support teaching materials, and experience with all of the laboratory experiments. **NOTE:** This course is not applicable to a master's degree.

592 CURRICULUM DEVELOPMENT IN TECHNOLOGY EDUCATION (1-3)

Prereq: public school teaching experience in technology education. Development of content, laboratory activities, resource materials and teaching aids useful in revising, improving, and implementing technology education curriculum.

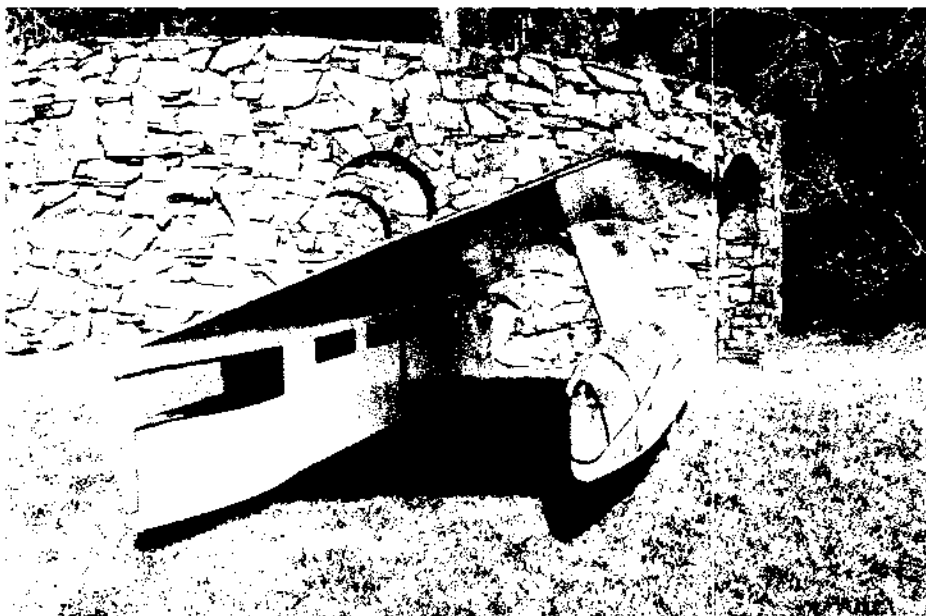
- 592a Electronics
- 592b Drafting/Design
- 592c Metals
- 592d Plastics
- 592e Power Mechanics
- 592f Woods
- 592g Visual Communication
- 592h Photography
- 592j Man/Technology
- 592k Manufacturing
- 592m Construction
- 592n Computer Applications

593 TECHNOLOGY EDUCATION METHODS (3)

Prereq: graduate with major in technology education/industrial arts. An application of principles, practices and problem solutions in the development and implementation of teaching methods appropriate for technology education. S/U grading.

594 TECHNOLOGY EDUCATION: CURRICULAR APPROACHES (3)

Prereq: graduate with major in technology education/industrial arts. An application of rationales, content and formats in the development and implementation of curriculum materials for technology education. S/U grading.



Women Studies

The Women Studies Program offers students an interdisciplinary approach to the particularly female dimensions of human experience and thought. It provides: (1) electives for those with a general interest in learning more about women, (2) preparation for those whose career choices involve working with or for women, and (3) undergraduate training for those who intend to pursue women's issues in their graduate or professional programs.

The minor includes four core courses and 14 credits of electives to be selected according to the individual needs of each student from relevant courses in the various departments.

Students may design a Student/Faculty-Designed Major through the College of Arts and Sciences or Fairhaven College.

Close advisement is recommended, as new courses may apply to this minor.

Dr. Kathryn Anderson, Fairhaven College, is the adviser for this program.

Minor 30 credits

Core: 16 credits.

- WS 211: Introduction to Women Studies (4)
- Anth 353: Sex and Gender in Culture (4)
- Eng 338: Women and Literature (4)
- Psych 219: Psychology of Sex Roles (4)
- Electives: 14 credits from Anth 453; Eng 341, 424, 425; Fair 313, 321, 327, 333, 346, 347, 348, 411, 418; Health Ed 152; Hist 366; Pol Sci 345, 469; Psych 217; Soc 368; WS 311, 313, 315.

COURSES IN WOMEN STUDIES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

211 INTRODUCTION TO WOMEN STUDIES (4)

Introduction to the issues, questions, conceptual frame-works and methods basic to a study of human societies, their institutions and cultural artifacts from a perspective that comprehends women's experience.

311 AMERICAN WOMEN STUDIES: 1620-1850 (5)

Prereq: Hist 103 or 104 or Eng 216 or another WS course. Women's role in American society from colonial times to the mid-nineteenth century, with attention to differences of race and class. Emphasis on changing sex roles for both women and men as a result of changes in the structure of the family, immigration, urbanization, expansion of the frontier, education, religion, development of the nation, and industrialization, including a focus on white and non-white women.

313 AMERICAN WOMEN STUDIES 1850 - PRESENT (5)

Prereq: Hist 103 or 104 or Eng 216 or another WS course. Factors influencing the female gender role as it changed in the last century and a half from the "Cult of True Womanhood" to the "New Woman" to the "Feminine Mystique" to the "Liberated Woman." Emphasis on the impact of changing modes of American capitalism, women's efforts for equal rights and social reform, changing patterns of fertility, women's increased participation in the work force, changes in women's role in the domestic sphere.

315 ISSUES OF THE WOMEN'S MOVEMENT (3)

Prereq: Pol Sci 101, Soc 101 or permission of instructor. Psychological, social, political and economic issues promoted by the women's movement; sex stereotyping in the family, education, politics and economy; past efforts to overcome sex discrimination; contemporary legal and public policy issues related to women; women's life experiences in other countries; theories of women's liberation.

COLLEGE OF BUSINESS AND ECONOMICS

Dr. Dennis R. Murphy, Dean

Objective of the College

The College of Business and Economics prepares men and women for positions of leadership and stewardship in the management and administration of complex organizations — from small companies to large multi-national enterprises. Students develop managerial skills, analytic economic skills and interpersonal sensitivities, as well as quantitative and accounting skills. All students earning a degree in one of the programs of the College will develop significant understanding of management information systems and computing.

The curriculum is primarily upper-division, based upon a broad liberal-arts education. Individual skills are developed sufficiently to achieve entry-level employment in many fields, but the College seeks to motivate and orient the student toward a lifelong learning experience. The College seeks to instill a sensitivity to environmental aspects of business enterprise, promotes a commitment to ethical behavior, and provides a strong emphasis on forward-looking, goal-setting behavior in the business world while encouraging an active role in community leadership.

The College of Business and Economics is organized into four departments: Accounting; Economics; Finance, Marketing and Decision Sciences; and Management. These departments are interdependent and their programs draw upon the whole College.

Department Chairs

Dr. Stephen V. Senge Accounting
Dr. Allan G. Sleeman Economics

Dr. Earl D. Benson Finance,
Marketing & Decision Sciences
Dr. Bruce D. Wonder Management

Directors

Dr. Robert C. Meier MBA Program
Fred C. Lewis Small Business
Development Program
Dr. Robert C. Meier Professional
Development Program
Dr. David E. Merrifield Center for
Economic and Business
Research
Dr. David M. Nelson Center for
Economic Education

Academic Programs Leading to Undergraduate and Graduate Degrees

Accounting BA
Business Administration BA
Economics BA
Master of Business
Administration MBA*

**Consult the Graduate School for further details.*

Combined Majors

Interdepartmental majors are given in accounting-computer science, accounting-economics, business administration-computer science, economics-environmental studies, economics-mathematics and economics-political science. See departments for details.

Admissions and Major Declaration

Admission to programs in the College of Business and Economics (CBE) is selective and based upon prior academic performance. A student must have earned at least 75 quarter hours of college credit and have met specific academic stand-

ards prior to applying for admission to one of the majors offered in CBE. Students who wish to major in business administration or accounting must have earned at least a 2.75 GPA in the equivalent of the following courses: Acctg 241, 242, 243; Econ 206, 207; Math 156; FMDS 255; Mgmt 271. Prerequisites for the economics program are listed in the departmental section. Prospective majors should consult the individual department sections of this catalog for departmental admissions criteria.

Enrollment in most upper-division courses (300 and above) is restricted to students who have been officially admitted to the College or who have been given special permission to enroll. Therefore, it is very important that students contact the appropriate department or the College of Business and Economics as early as possible. Applications for admission are made directly to the appropriate department. Academic advisement is provided by the faculty.

Students may enroll in lower-division courses without formal admission into the College of Business and Economics.

See the Admissions section of this catalog for policies and procedures relevant to admission to Western Washington University.

Retention

Majors in any College program who have received an academic warning from the University or who have been placed on academic probation must have written permission from the appropriate department to register for upper-division courses.

Requirements for Bachelor's Degree

Besides the general requirement for graduation from the University, explained elsewhere in this catalog, the College of Business and Economics has the following specific requirements:

- Electives: electives may be selected as needed to ensure the required 180 quarter hours total credit, *except* that majors in Accounting and Business Administration must complete a minimum of 72 credits in areas other than Accounting, Business Administration and Economics.

Students are reminded that up to 32 hours of upper-division credit are elective. This provides significant opportunity to include courses in the arts, sciences and humanities. Early discussion with a CBE faculty adviser is strongly encouraged.

- Petitioning procedure: any student who seeks either a variation from the strict application of the rules, regulations, or requirements of the College, or a student-designed major from among the departments of the College, may petition the Dean.

Minor

In addition to the majors provided by the four departments, a minor makes an excellent addition to a specialized program in other areas of the University. This gives relevant, realistic, and applicable qualities to those valuable skills developed in other more abstract and theoretic departments. The combination of a minor with a major in speech, English, journalism, visual communications, home economics, foreign languages, or other liberal arts majors, provides an additional strength and resource to the individual's skills and educational development. See departments for details on minors.

Special Programs

The Nippon Business Institute. The Nippon Business Institute is a four-year program in which students may complete their first two years at Everett Community College before transferring to Western. At Western students complete all requirements for a degree in business administra-

tion. During all four years of the program students study Japanese language, culture and business practice. The program includes a residency in Japan. Upon successful completion of the program, students are awarded a bachelor's degree in business administration and a certificate in Japanese business studies.

Small Business Development Center (SBDC). The SBDC provides individual counseling to small business firms, conducts research into general small business problems, and develops and offers educational programs geared to the needs of persons operating small businesses. Any small business firm, community group or individual may request assistance. There is no charge for the management and technical assistance services of SBDC counselors.

Center for Economic Education. The Center for Economic Education, coordinated by the Economics Department, is involved in providing economic knowledge, data, and teaching aids to the grade schools and high schools throughout the state. Affiliated with the Washington State Council on Economic Educa-

tion, this center assists in raising the standards of economic literacy of the state.

Center for Economic and Business Research (CEBR). This center undertakes research activities related to developing a better understanding of the economic and business climate of the Pacific Northwest. The Center is developing and maintaining an economic data base for the area, has developed a regional model that will assist in forecasting certain economic variables for the region, and responds to specific research request from local public and private entities.

Professional Development Program. This is the outreach arm of the College, providing programs and seminars of interest to our constituency.

Small Business Institute (SBI). The Small Business Institute provides free advice to small businesses. Students can become involved and earn College credit while studying actual enterprises and helping local businesses solve problems.

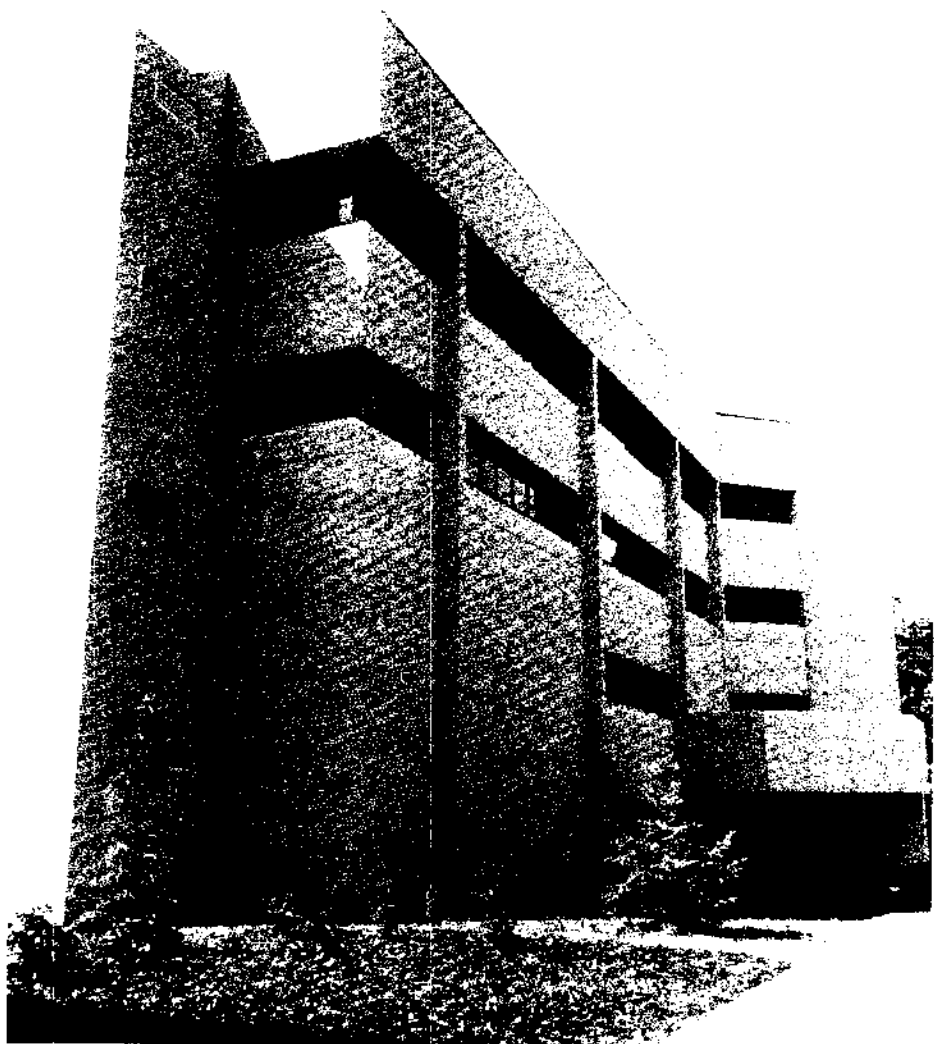
Internships are available through individual departments. These can provide College credit for on-the-job work experience.



Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this

catalog. For an exact scheduling of courses at Western, students should consult the annual *Timetable of Classes*, the Summer Bulletin and the University Extended Programs' bulletins.



Accounting

Accounting is an important tool of management, with economic organizations using accounting information to plan, control and report their financial activity. A thorough knowledge of accounting is, therefore, necessary to understand the operation and financial condition of any complex business or governmental agency.

The Accounting Department offers a broad program of courses in accounting which, coupled with required and elective courses in economics and business administration, provides the graduate with a sound educational foundation for an accounting career or post-graduate studies.

The accounting graduate can expect to find employment in a number of areas including private business, public accounting or governmental service. An accountant in private business will typically work in such positions as cost accountant, tax accountant, treasurer, auditor, budget officer, business manager or controller. The certified public accountant offers services as a professional person to the general public for the purpose of installing accounting systems, providing tax counsel and compliance, and auditing accounting records. Governmental employment also offers varied opportunities analogous to those found in the private sector.

Students are urged to consider the variety and wealth of career opportunities available to the accounting graduate when they select their accounting elective courses.

Because accountants must communicate effectively and must be proficient in mathematics, we recommend that prospective accounting students take four years of English and at least three years of mathematics in high school.

DECLARATION OF MAJOR

To declare a major in accounting, a student (1) must have earned at least 75 credits and (2) must have completed the following foundation courses (or equivalents) with a grade point average at or above 2.75:

- Acctg 241, 242, 243
- Econ 206, 207
- FMDS 255
- Mgmt 271
- Math 157

The minimum grade standard may be adjusted each year; however, any change in standards will be published in the *Timetable of Classes*.

A student may apply for acceptance as an accounting or combination accounting/computer science or accounting/economics major by obtaining forms and instructions from the departmental secretary.

Electronic spreadsheet competence is required in some 300/400-level accounting courses.

ENROLLMENT PRIORITIES

Because of heavy demand for accounting courses, the department has found it necessary to give priority for enrollment in all of its courses to students who have not previously received a grade in the course including W or Z. The additional following priorities will be applied for registering for all upper-division courses:

1. Students officially declared as majors in accounting, accounting/computer science, or accounting/economics.
2. Students who are officially declared majors in other departments in the College of Business and Economics.
3. Other students who have com-

pleted Accounting 241, 242 and 243 (or equivalent at other institutions).

- Econ 206, 207, 409
- Math 157

*May substitute Math 240 for FMDS 255.

ACCOUNTING FACULTY

- STEPHEN V. SENGE (1985) Chair.
Associate Professor. BA, California Western University; MPA, Denver University. MA, DBA, Kent State University; CMA.
- MARGUERITE R. HUTTON (1989) Assistant Professor. BBA, MPA, University of Texas at Arlington; Ph.D. University of Houston; CPA, State of Texas.
- JULIE A. LOCKHART (1982) Associate Professor. BS, MS, University of Illinois; CPA, State of Illinois.
- STEVEN PASKIN (1991) Assistant Professor. BS, MS, San Diego State University; Ph.D, University of Colorado.
- WILLIAM M. SAILORS (1974) Associate Professor. BSME, University of Illinois; MBA, MS Engr., University of Southern California; CPA, States of Washington and California.
- RONALDN. SAVEY (1976) Associate Professor. BA, Western State College (Colo.); MBA, University of Denver; CPA, States of Colorado and Washington.
- WILLIAM R. SINGLETON (1976) Professor. BBA, Memphis State University; MBA, University of Portland; Ph.D. University of Hawaii, CPA, State of Washington.
- DANIEL M. WARNER (1978) Assistant Professor. BA, JD, University of Washington; MA, Western Washington University.

BACHELOR OF ARTS

Major 108 credits

- Acctg 241, 242, 243, 321, 331, 341, 342, 343, 370, 375, 441, 461
- 12 upper-division accounting credits under advisement
- FMDS 255, 330, 341, 495
- Mgmt 271, 311, 360, 482
- Econ 206, 207, 409
- Math 157

*Combined Major —
Accounting/Computer
Science* 108 credits

- Acctg 241, 242, 243, 341, 342, 461
- 6 upper-division accounting credits under departmental approval
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471
- FMDS 255*, 330, 341, 495
- Mgmt 271, 311, 360, 482

An interdepartmental major in Accounting/Economics is also offered. See the Economics section of this catalog.

Minor 26 credits

- Acctg 241, 242, 243, 341, 342
- Additional credits in accounting under advisement

COURSES IN ACCOUNTING

Courses numbered X37: X97, 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 241 PRINCIPLES OF FINANCIAL ACCOUNTING (4)
Introduction to the theory and practice of accounting, including financial statements.
- 242 PRINCIPLES OF FINANCIAL ACCOUNTING (4)
Prereq: Acctg 241 Emphasis on partnership and corporation accounting.
- 243 PRINCIPLES OF MANAGERIAL ACCOUNTING (4)
Prereq: Acctg 242. Introduction to the procedures and techniques with which managers use accounting information to make decisions and to achieve control in business organizations
- 321 ACCOUNTING INFORMATION SYSTEMS I (4)
Prereq: Acctg 243. Overview of the analysis, design and implementation of both manual and computerized information systems. A review of the current state of the art of applications, software and systems available for accounting and managerial functions.
- 322 COMPUTER SPREADSHEETS (1)
Prereq: Acctg 243. Classroom instruction in computer spreadsheet skills is combined with financial and managerial accounting problems worked in a supervised IBM micro computer laboratory. S/U grading.
- 331 MANAGERIAL COST ACCOUNTING (4)
Prereq: Acctg 243. Procedures used for classifying, recording, summarizing, and allocating current and estimated costs for planning, controlling, and reporting purposes.

Accounting

- 341 INTERMEDIATE ACCOUNTING THEORY AND PRACTICE I (4)**
Prereq: Acctg 243. An in-depth study of accounting theory and practice for students who require more than introductory coverage. Both conceptual and application topics are studied.
- 342 INTERMEDIATE ACCOUNTING THEORY AND PRACTICE II (4)**
Prereq: Acctg 341. Accounting principles related to stockholders' equity matters, investments, revenue recognition, deferred taxes, pension plans, leases, and preparation and analysis of financial statements.
- 343 INTERMEDIATE ACCOUNTING THEORY (4)**
Prereq: Acctg 342. A study of the accounting theory underlying current practice. Existing and emerging issues in accounting are also examined.
- 370 LAW OF COMMERCIAL TRANSACTIONS I (4)**
Prereq: Mgmt 271. Legal principles underlying the law of contracts, sales, secured transactions, real property security, bankruptcy, and suretyship.
- 371 LAW OF COMMERCIAL TRANSACTIONS II (4)**
Prereq: Mgmt 271. Legal principles underlying the law of agency, commercial paper and documents of title, corporations, partnerships, antitrust, insurance, estates and trusts and employment.
- 375 INCOME TAXATION I (4)**
Prereq: Acctg 242. Taxation of individuals and sole proprietorships. Introduction to tax research and use of the Internal Revenue Code.
- 377 ACCOUNTING IN NOT-FOR-PROFIT ORGANIZATIONS (3)**
Prereq: Acctg 242. Fund and budgetary accounting as applied to governmental units and other not-for-profit entities.
- 421 ACCOUNTING INFORMATION SYSTEMS II (3)**
Prereq: Acctg 321. Both current and prospective applications of computer-based information systems as applied to accounting data bases will be studied. Utilizes case studies, selected readings for group discussion and guest lecturers with specialized expertise. Will not involve conventional procedural computer programming.
- 431 ADVANCED MANAGERIAL COST ACCOUNTING (3)**
Prereq: Acctg 331. Managerial uses of accounting information for planning and control in complex organizations.
- 435 MANAGEMENT ACCOUNTING SEMINAR (3)**
Prereq: Acctg 331. Case analysis, synthesis and review of management concepts such as responsibility accounting, performance evaluation, budgeting and control in profit-seeking and non-profit, domestic and international, and product and service firms.
- 441 ADVANCED ACCOUNTING THEORY AND PRACTICE I (4)**
Prereq: Acctg 343. An introduction to business combinations and fund accounting. Partnerships, SEC reporting, interim reports and other topics also are examined.
- 442 ADVANCED ACCOUNTING THEORY (3)**
Prereq: Acctg 343. An advanced seminar in financial accounting. The course will cover contemporary topics in financial accounting. Specific topics will vary by quarter.
- 444 MULTI-ENTITY ACCOUNTING AND RELATED ISSUES (3)**
Prereq: Acctg 441. An in-depth look at accounting for business combinations and consolidated financial statements. Valuation and other issues attendant to mergers, acquisitions and closely held corporations.
- 451 INTERNATIONAL ACCOUNTING (3)**
Prereq: Acctg 343. Analysis of accounting for multinationals; area studies of accounting and financial reporting standards; and an evaluation of the international accounting harmonization effort.
- 461 AUDITING THEORY AND PRACTICE (4)**
Prereq: Acctg 342. Theory and practice related to the auditing environment, including general audit technology, programmatic applications and reporting obligations.
- 462 ADVANCED AUDITING (3)**
Prereq: Acctg 461. For the student intending a career as a professional auditor. Readings in current issues, case simulations and presentations by professional experts.
- 475 INCOME TAXATION II (3)**
Prereq: Acctg 375. Taxation of corporations and partnerships.
- 476 ADVANCED TAXATION (3)**
Prereq: Acctg 475. Emphasis on gift, estate, trust and international taxation. In addition, advanced research, planning and policy topics in taxation are covered.

See the Graduate School section of this catalog for a description of the MBA program.

Economics

In a world without scarcity, economics as a field of study would be unnecessary. The most challenging task of economics is the study of how to best use resources in the satisfaction of human wants. Today, more than ever, the problems agitating society are predominantly economic. The problems of inequality, discrimination, pollution, energy, growth and stagnation are heavily economic, as are their solutions. Whether as intelligent citizens or as professional economists, we need the perspective and analysis of economics to understand and deal with the realities of life in the late 20th and early 21st centuries.

With appropriate preparation, particularly in the areas of economic theory, statistical methods and computer-assisted data analysis, the career opportunities for young economists are diverse. Economists are most typically employed at all levels of government, in the nation's banking and financial institutions, other business firms, labor organizations, and as researchers and teachers in the educational system. One of the most dynamic career areas for economists has been in business. Business economists are typically involved in planning and forecasting, production and market analysis, pricing, and government policy analysis. While various employment opportunities are available to the university graduate with a baccalaureate degree, the person who wishes to pursue a high-powered career as a professional economist should plan to do some graduate study.

The economics program at Western provides several options under the Bachelor of Arts degree.

The economics major requires a foundation in economic theory and quantitative skills and provides opportunities for pursuing in depth a number of important areas within

economics, most notably environmental and resource economics.

In addition, the department offers combined majors in economics/accounting, economics/mathematics, economics/political science and economics/environmental science.

Students must consult with an adviser prior to the selection of a major option or area of emphasis, or the selection of elective credits in other departments of the College of Business and Economics to be included as part of the economics major.

DECLARATION OF MAJOR

To declare a major in economics, a student must have completed 75 credits; completed a course in college algebra (equivalent of Math 103); and completed Econ 206, 207 271, and either 306 or 307, with an average grade of 2.75. Under exceptional circumstances, these requirements may be waived at the discretion of the chair. Further information and major declaration forms may be obtained from the department in Parks Hall 315.

Transfer students should contact the department about their major prior to registering to assure that they enter the course sequence correctly and to receive departmental evaluation of course work completed at other institutions.

ECONOMICS FACULTY

Typically all economics faculty on on-going appointments hold the Ph.D. degree and are engaged in research and consulting activities at the local, state, national and international level. Faculty members have a commitment to quality teaching, personalized student contact and student advisement.

Economics

- ALLAN G. SLEEMAN (1977) Chair.
Associate Professor. BSc (Econ), London School of Economics; PhD, Simon Fraser University.
- DANIEL A. HAGEN (1988) Assistant Professor. BA, MA, PhD, University of California, Berkeley.
- JULIA HANSEN (1988) Assistant Professor. BA, University of Vermont; MA, PhD, University of California, Berkeley.
- K. PETER HARDER (1970) Professor. BA, University of Puget Sound; MA, PhD, University of Nebraska.
- MARY ANN HENDRYSON (1989) Lecturer. BA, MA, University of Denver; ABD, Washington State University.
- STEVEN E. HENSON (1985) Associate Professor. BA, California State University; MS, PhD, University of Oregon.
- DAVID E. MERRIFIELD (1983) Professor. BS, Willamette University; MA, PhD, Claremont Graduate School.
- DENNIS R. MURPHY (1979) Professor and Dean of the College of Business and Economics. BA, MA, Western Washington State College; PhD, Indiana University.
- DAVID M. NELSON (1977) Associate Professor. BA, Whitworth College; MA, PhD, University of Oregon.
- DIANA WEYMARK (1988) Assistant Professor. BA, MA, Dalhousie University; PhD, University of British Columbia.

BACHELOR OF ARTS

Major — Economics 72 credits

- Econ 206, 207, 271, 303, 306, 307, 406 or 407
- FMDS 255
- At least one of Econ 470, Econ 475, or FMDS 357
- 36 credits of electives in the College of Business and Economics, under departmental advisement. At least 28 of these credits must be in economics. A minimum of 16 of the 28 credits of economics electives must be at the 400 level.

Minor 24 credits

- Econ 206, 207
- Additional courses selected under departmental advisement; at least 12 credits must be at upper-division level

Combined Major — Economics/Mathematics

100 credits

This major is for students who wish considerable depth in both areas, and

is particularly suitable as preparation for graduate study in economics.

- Econ 206, 207, 271, 303, 306, 307, 406 or 407, 475
- 16 additional credits in upper-division courses in economics, under prior departmental advisement
- Math 124, 125, 204, 224, 225, 226
- Math/Comp Sci 335
- Math 341, 342; or Math 441, 442, 443
- Comp Sci 210
- Additional credits in upper-division mathematics or computer science, under advisement from the departments of Economics and Mathematics, to complete the required 100 credits of this program

Combined Major — Economics/Accounting

104 credits

This major is designed for students wishing to obtain a strong preparation in both economics and accounting and especially those who intend to go into careers in business or finance.

- Econ 206, 207, 271, 303, 306 or 409, 307, 311
- 8 additional credits in upper-division economics courses, under departmental advisement
- Acctg 241, 242, 243, 321, 341, 342, 343
- 8 additional credits in upper-division accounting courses, under departmental advisement
- FMDS 255, 330, 341, 495
- Mgmt 271, 311, 360, 482

Combined Major — Economics/Political Science

94 credits

This major is available for students who have a strong interest in both of these disciplines and whose career interests lie, for example, in government or the legal profession.

- Econ 206, 207, 271, 303, 306, 307, 410
- FMDS 255
- 12 additional credits in upper-division economics courses, under departmental advisement
- Pol Sci 250; 260 or 365; 270 or 291; 360; 425
- Econ/Pol Sci 491
- A minimum of one course from each of these areas: Pol Sci 320 or 427 or 468; 345 or 346 or 347; 462 or 463 or 465
- 8-9 additional credits in upper-division political science electives, to complete the total required 94 credits of this program

**Combined Major —
Economics/Environmental
Studies** 100 credits

This major is available for students who have a strong interest in problems of the environment and natural resources and who may contemplate graduate work, or careers, focused on the environment and natural resources.

- Econ 206, 207, 271, 303, 306, 307, 383, 483
- 12 additional credits in upper-division economics courses, of which a minimum of 4 must be at the 400-level, to be selected under departmental advisement
- FMDS 255 (or equivalent); or Envr 340 (or equivalent)
- Econ/Envr 493 (or approved alternative)
- Envr 301, 302, 303, 401, 402, 436, 490; 464 or 465
- 16-17 additional credits in upper-division environmental studies courses, under faculty advisement

**BACHELOR OF ARTS IN
EDUCATION
— Elementary or Secondary
Education**

Major 50 credits

Adviser: Dr. David M. Nelson

- Econ 206, 207, 271, 303, 306, 307
- FMDS 255
- Electives in economics under departmental advisement to complete the required 50 credits of the major

Students in elementary education must also complete the elementary professional sequence.

Students in secondary education also must complete the specific program requirements for social studies education, including the social studies minor. See the Social Studies Education Program section of this catalog. Completion of this major/minor program leads to a teaching endorsement in economics and in social studies for grades 4-12.

PREREQUISITES

Prerequisites for a particular course indicate its level of analysis and tool requirements. The exceptional student who has already acquired these skills elsewhere, or can readily acquire them, must secure special permission for enrollment from the instructor.

COURSES IN ECONOMICS

Courses numbered X37; X97; 300, 400, 417, 445 are described on pages 38-39 of this catalog.

**206 INTRODUCTION TO
MICRO-ECONOMICS (4)**

An overview of the modern market economy as a system for dealing with the problem of scarcity. Operation and decision-making of economic units; supply, demand and resource allocation; analysis of various market and industry structures; shortages, controls, social costs and benefits; international trade; comparative systems.

**207 INTRODUCTION TO MACRO-
ECONOMICS (4)**

Prereq: Econ 206 or 446. An overview of the modern market economy as a system for dealing with the problem of scarcity. The analysis of relationships among such variables as national income, employment, inflation and the quantity of money. The roles of government expenditure, taxation and monetary policy; international finance; economic development.

Economics

208 ISSUES IN ECONOMICS (4)

Prereq: Econ 206 and 207, or permission of instructor. Tools and concepts of micro- and macro-economics applied to major policy issues.

271 QUANTITATIVE METHODS (4)

Prereq: Econ 206 and 207; Math 103 or equivalent. Introduction to selected basic mathematical techniques useful for the study of economics. Emphasis on the use of differential calculus to formulate and solve economic problems.

303 THE HISTORY OF ECONOMIC THOUGHT (4)

Prereq: Econ 206 and 207. Development of economic thought from the Greek philosophers to the present. Emphasis is on the micro, macro and critical traditions in economics following Adam Smith.

306 INTERMEDIATE MICRO-ECONOMICS (4)

Prereq: Econ 206; Econ 271 or Math 157 or equivalent. An analytical approach to the consumer, the firm and markets. The theory of pricing under conditions of perfect and imperfect market structures; the theory of factor markets.

307 INTERMEDIATE MACRO-ECONOMICS (4)

Prereq: Econ 207. Examination of the factors that determine the level of income, employment, output and prices in an economic system. Review and analysis of recent U.S. economic policy and performance.

311 MONEY AND BANKING (4)

Prereq: Econ 206 and 207. The nature and functions of money and the role of depository institutions and central banks in affecting the supply of money and credit in the U.S. Considers the changing U.S. financial environment and the influence of monetary policy on interest rates, prices, and the overall level of economic activity.

381 AMERICAN ECONOMIC HISTORY (4)

Prereq: Econ 206 and 207. American economic development from 17th century to present. Emphasis on resource endowment, social and economic conditions and institutions, growth and development processes, and the role of government.

383 ENVIRONMENTAL ECONOMICS (4)

Prereq: Econ 206. Explores the economic basis of environmental issues and policies. An examination of property rights, externalities and the common-property basis of environmental problems. Issues such as air and water pollution, solid waste disposal, hazardous substances and wilderness preservation.

387 THE ECONOMICS OF ENERGY (4)

Prereq: Econ 206. The role of energy in the modern economy and the key aspects of energy supply and demand. Topics include oil and OPEC, regulation of natural gas and electric utilities, nuclear energy, conservation, solar power and unconventional energy sources, with an emphasis on public policy.

405 RADICAL ECONOMICS (4)

Prereq: Econ 206 and 207. The fundamentals of Marxian economic theory and its modern variants. Application of the tools of radical economic analysis in examining economic trends and social issues.

406 TOPICS IN MICRO-ECONOMICS (4)

Prereq: Econ 306; Econ 271 or equivalent; FMDS 255 or Math 341 recommended. Application of quantitative and theoretical tools in key areas of micro-economics, with emphasis on quantitative models of the consumer, cost and production analysis of the firm, and market analysis. Special topics may include welfare economics, the theory of interest and capital, information, externalities and public goods.

407 TOPICS IN MACRO-ECONOMICS (4)

Prereq: Econ 307; Econ 271 or equivalent; FMDS 255 or Math 341 recommended. Examination of current issues in macro-economic theory and policy. Emphasis on recent U.S. experience, with particular attention given to inflation, unemployment, growth and the balance of payments. Includes extensive reading in current professional journals.



- 409 MANAGERIAL ECONOMICS (4)**
Prereq: Econ 206; Math 157 or Econ 271; and FMDS 255. Application of economic principles to managerial decision-making in both profit and not-for-profit organizations. Demand, costs and market structure and their relation to pricing, product choice and resource allocation.
- 410 PUBLIC FINANCE (4)**
Prereq: Econ 206 and 207. The efficiency, equity and stabilization impacts of public expenditure and revenue programs; emphasis on problems and institutions at the national level.
- 430 ECONOMICS OF LABOR (4)**
Prereq: Econ 306 or 409. Economics of the labor market; development and functioning of labor unions and collective bargaining.
- 442 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY (4)**
Prereq: Econ 306 or 409. The relation of market structure to performance. Particular attention paid to monopoly, oligopoly, workable competition, and public policy, including anti-trust policy and the costs and benefits of regulation. Offered irregularly.
- 446 ECONOMICS FOR THE TEACHER (3)**
Prereq: teaching experience or current enrollment in teacher education program. Presentation of basic microeconomic concepts including the operation and decision-making of households and businesses in a market economy. Special consideration is given to the development of classroom teaching strategies involving the use of games, simulations and audiovisual aids.
- 447 METHODS FOR TEACHING ABOUT THE NATIONAL ECONOMY IN THE PUBLIC SCHOOLS (3)**
Prereq: Econ 206 or 446, plus teaching experience or current enrollment in a teacher education program. Forces affecting the overall levels of output, employment and prices in the U.S. economy. The economic effects of government policies involving taxes, spending and the money supply. Special consideration is given to the development of classroom teaching strategies involving the use of games, simulations and audiovisual aids.
- 462 INTERNATIONAL TRADE (4)**
Prereq: Econ 306 or 409. Theory of international trade and its implications for economic growth and development. Analysis of commercial policies between nations, involving the movement of commodities and factors of production. Included are issues of protectionism, economic integration and the role of multi-national corporations.
- 463 INTERNATIONAL FINANCE (4)**
Prereq: Econ 311; Econ 307 recommended. Balance of payments, adjustment mechanisms, international monetary system and international interdependence. Topics include determinants of exchange rate policy, the relationship between domestic monetary and exchange rate policies, and international policy coordination.
- 464 CANADIAN ECONOMIC HISTORY (2)**
Prereq: Econ 206 and 207. Canadian economic development from the 17th century to the mid-20th century. Examines the importance of resources, agriculture and transportation in the economic growth of Canada.
- 465 TOPICS IN CANADIAN ECONOMIC POLICY (4)**
Prereq: Econ 206 and 207. Examination of 20th century Canadian economic policy. Topics covered focus on current economic issues in Canada.
- 470 ECONOMIC FLUCTUATIONS AND FORECASTING (4)**
Prereq: Econ 306 or 307 or 409; and Math 341 or FMDS 255. Theory and techniques of forecasting economic trends at the macro, micro, and regional levels. Application of regression and time-series methods using PC econometric/forecasting software.
- 475 ECONOMETRICS (4)**
Prereq: Econ 206 and 207; Econ 271 or equivalent; Econ 306 or 307; Math 341 or FMDS 255. The use of statistical methods to estimate and test economic models. Theory and application of regression techniques, with emphasis on problems arising in the analysis of economic data.
- 480 URBAN ECONOMICS (4)**
Prereq: Econ 206. Economic forces behind urbanization. Economic analysis of urban problems, including land use, transportation and housing. Urban public finance; welfare economics and efficient resource allocation.
- 483 RESOURCE ECONOMICS (4)**
Prereq: Econ 306 or 409. Principles of efficient resource allocation over time, distributional equity, and cost/benefit analysis. Examines exhaustible resources such as minerals, renewable resources such as fisheries and forests, and quasi-public goods including water and wilderness.
- 485 COMPARATIVE ECONOMIC SYSTEMS (4)**
Prereq: Econ 206 or 207. A comparative analysis of the major economic systems; a critical appraisal of underlying philosophies, structures and individual performance.

Economics

486 ECONOMIC DEVELOPMENT (4)

Prereq: Econ 206 or 207. Causes and conditions characterizing the process of economic development. An evaluation of alternative approaches toward development policies.

487 ECONOMIES OF THE PACIFIC RIM (2)

Prereq: Econ 206 and 207. The Pacific Rim treated as a distinct economic region. Topics include economic development patterns, interdependence, and economic achievements and problems. Specific emphasis on trade, development and policy relations involving the U.S., Japan and the so-called Newly Industrialized Countries.

490 INTERNSHIP IN ECONOMICS (4-10)

Prereq: eligibility outlined in departmental internship policy statement S/U grading.

491 ISSUES IN POLITICAL ECONOMY (4)

Prereq: senior status in the economics/political science combined major, or an economics major and political science minor, or permission of instructor. Discussion and analysis of selected issues of significant economic and political content. Also offered as Pol Sci 491.

493 SENIOR SEMINAR: ECONOMICS, THE ENVIRONMENT, AND NATURAL RESOURCES (4)

Prereq: senior status in economics/environmental studies combined major. Discussion and analysis of selected issues in the economics of the environment and natural resources. Also offered as Envr 493.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog. These courses are offered irregularly in conjunction with the MBA Program also described in the Graduate School.

510 SEMINAR IN PUBLIC ECONOMICS (4)

Prereq: written permission of instructor. An analysis of the behavior of the public sector and the incidence of its attempts to achieve allocation, distribution and stabilization goals.

511 SEMINAR IN FINANCIAL INSTITUTIONS AND MONEY (4)

Prereq: written permission of instructor. The monetary and financial system. Relation of economic theory to monetary policy and economic activity.

525 SEMINAR IN LABOR ECONOMICS (4)

Prereq: written permission of instructor. Selected topics in the economics of labor markets and the process of collective bargaining.

561 SEMINAR IN INTERNATIONAL ECONOMICS (4)

Prereq: written permission of instructor. Detailed analysis of the pure and monetary theories of international trade and their relevance to the modern world.

582 SEMINAR IN REGIONAL ECONOMICS (4)

Prereq: written permission of instructor. Case studies in regional social accounting, growth and stability, intra- and interregional relations; concepts and criteria of regional planning.



Finance, Marketing and Decision Sciences

The Department of Finance, Marketing and Decision Sciences (FMDS) provides the opportunity for study in several related fields of business administration. The primary fields include finance, marketing and management information systems. Additional course work is provided in international business, business statistics and business policy. These fields cover a variety of responsibilities in both public and private organizations. An emphasis on breadth, general knowledge and analytical skills pervades all levels of the undergraduate curriculum. Graduates from the FMDS Department will have completed a broad business program plus a wide range of non-business subjects, reflecting the department's belief that education should prepare students for satisfying achievements in life as well as business.

PROGRAM OBJECTIVES

Departmental programs have been designed to prepare students for leadership roles in business and the community. The educational objectives of the department are to:

- Encourage intellectual inquiry.
- Provide students with the perceptual and analytical skills necessary in making decisions and evaluating policy in business.
- Develop student understanding of the social, economic and regulatory environment of business.
- Enhance educational opportunities through research activities of faculty and students.

The program is designed for students with a variety of career goals including opportunities with financial institutions, manufacturing and retail firms, service industries and the public sector.

THE CURRICULUM

Development of the department's curriculum has been guided by the standards of the American Assembly of Collegiate Schools of Business. Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements (GURs) and the business administration major foundation courses. Several foundation courses satisfy GURs, and careful planning can save time for additional elective course work. Electives that emphasize oral and written communication skills are particularly recommended.

The junior and senior years are devoted primarily to upper-division core requirements and elective course work. Students may choose to concentrate their major electives in a single field if they wish. The department offers concentrations in finance, international business, management information systems and marketing. Students who wish to complete a concentration must pay close attention to class scheduling because of prerequisites and limited offerings of some courses.

International Business Concentration

Students who choose to complete the international business (IB) concentration are expected to have a broad background outside the field of business. IB students are asked to carefully plan their GURs and University electives to include courses in geography, political science, anthropology, non-U.S. history and regional studies. Since language skills are of fundamental importance in international business, students should con-

tinue their training in foreign languages. For longer-term career purposes, IB students are encouraged to take two or more courses in a functional area of business. Study abroad and internships may be taken for credit in the major where appropriate and when formal procedures are followed.

Business Applications Software

The use of personal computer systems to assist in data management, analysis and reporting of results is widespread in the curriculum of the FMDS Department. Students are expected to have some proficiency in word processing and spreadsheet software at the time they enter upper-division FMDS classes. This proficiency can be gained through several means, including formal class work at a university or community college, work experience or commercially offered classes. Students who have not otherwise gained these skills are expected to register in FMDS 201 prior to (or concurrent with) their registration in FMDS 308, 341, or 357. Students who desire more than a basic introduction may take FMDS 202.

STUDENT ADVISING

For answers to routine questions concerning preparation and progress through the major, students should consult the FMDS Department "Planning Guide," available in Parks Hall 343. Non-routine questions should be directed to the department chair. Questions concerning individual areas of study should be directed to faculty who teach in that area.

After the declaration of major (see next section), a student will be assigned a faculty adviser with whom the student must consult concerning mandatory and elective courses in the chosen concentration. The faculty adviser may also be a source of information concerning career objectives and opportunities.

DECLARATION OF MAJOR

To be eligible to declare a major in business administration, a student (1) must have earned at least 75 credits and (2) must have completed the following foundation courses (or equivalent courses) with a grade point average at or above 2.75.

- Acctg 241, 242, 243
- Econ 206, 207
- FMDS 255
- Mgmt 271
- Math 157

Declaration should be accomplished as early as possible since acceptance as a major provides priority access to upper-division classes. Transfer students may be considered for admission prior to enrollment at WWU.

ENROLLMENT PRIORITIES

Because of high student demand for business administration program courses, the department must give enrollment priority to students for whom those courses are requirements rather than electives. Priority is given to majors in the College of Business and Economics and other declared majors for whom the classes are required.

FINANCE, MARKETING AND DECISION SCIENCES FACULTY

- EARL D. BENSON** (1980) Chair.
Professor. BS, University of Idaho; MA, Pennsylvania State University; PhD, University of Oregon.
- DAVID J. AUER** (1980) Lecturer. BA, MA, Western Washington University.
- WENDY J. BRYCE** (1986) Assistant Professor. BA, Tufts University; MBA, Cornell University; PhD, University of Washington.
- DAVID R. FEWINGS** (1985) Associate Professor. BSc, University of Manitoba; MBA, PhD, University of Toronto.
- PAMELA L. HALL** (1990) Lecturer. BS, MPA, ABD, Louisiana Tech University.
- KEN HUNG** (1990) Assistant Professor. BS, National Taiwan University; MBA, Virginia Polytechnic & State University; PhD, University of Maryland.

- L. FLOYD LEWIS (1983) Associate Professor. BA, California State University, Sacramento; MS, San Jose State University; PhD, University of Louisville.
- ROBERT C. MEIER (1978) Professor. BS, Indiana University; MA, PhD, University of Minnesota.
- JOHN S. MOORE (1970) Associate Professor. BS, University of North Dakota; MS, JD, University of Colorado; CPA, State of Colorado; PhD, University of Washington.
- THOMAS J. OLNEY (1986) Assistant Professor. AB, Cornell University; MBA, PhD, Columbia University.
- STEVEN C. ROSS (1989) Associate Professor. BS, Oregon State University; MS, PhD, University of Utah.
- DAVID S. RYSTROM (1983) Associate Professor. BS, UCLA; MS, California State University, Northridge; PhD, University of Oregon.
- FARROKH SAFAVI (1969) Professor. BA, BS, MBA, University of Teheran; MBA, DBA, University of Southern California.
- ROBERT S. SPICH (1988) Associate Professor. BA, Lafayette College; MBA, PhD, University of Washington.
- TERRELL G. WILLIAMS (1990) Professor. BS, MS, University of Wyoming; PhD, University of Arizona.

BACHELOR OF ARTS

Major — Business Administration (Finance, Marketing and Decision Sciences) 91-92 credits

- Foundation Courses (32 credits):
Acctg 241, 242, 243
Econ 206, 207
FMDS 255
Mgmt 271
Math 157
- Core Courses (36 credits):
Econ 409
FMDS 308, 330, 341, 357*, 495**
Mgmt 311, 360, 482
- Concentration Electives (23-24 credits):
Students may select one of the faculty recommended concentrations listed below, or may choose to have no concentration and complete 23 to 24 credits under advisement

*Majors should take FMDS 357 as early in their junior year as possible.

**Students may substitute Mgmt 491 and 492 in lieu of FMDS 495.

Concentrations

Finance

- FMDS 440, 441, 444
- Two courses from FMDS 446, 447, 448, 449
- One course from Acctg 331, 341, 375, Econ 306, 307, 311, 410, FMDS 345, 346, 456

International Business

- FMDS 470
- One course from Econ 462, 463, 485, 486
- Two courses from FMDS 436, 473, Mgmt 366, 481, Acctg 451
- Two courses under advisement

Management Information Systems

- Mgmt 312, FMDS 309, 410, 411
- Two courses from: FMDS 413 (may be repeated), FMDS 414, Acctg 421, Comp Sci 415 (one COBOL course is highly recommended for the MIS concentration)

Marketing

- Mgmt 312, FMDS 433
- Three courses from FMDS 430, 431, 432, 434, 435, 436, 417 (topics)
- One course under advisement

Combined Major — Business Administration/Computer Science 94 credits

- Acctg 241, 242, 243
- Mgmt 271, 311, 312, 360, 482
- FMDS 255, 330, 341, 495*
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471
- Econ 206, 207, 409
- Math 157

*May substitute Mgmt 491 and 492 in lieu of FMDS 495.

Minor — Business Administration 40 credits

- Acctg 241, 242
- Mgmt 271, 311
- FMDS 255, 330, 341

- Econ 206, 207
- Math 157

COURSES IN FINANCE, MARKETING AND DECISION SCIENCES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 201 INTRODUCTION TO BUSINESS
COMPUTER SYSTEMS I (2)
Prereq: Acctg 241 or equivalent. Introduction to the use of commercial software packages for business applications of spreadsheet analysis, word processing and data communications.
- 202 INTRODUCTION TO BUSINESS
COMPUTER SYSTEMS II (2)
Prereq: FMDS 201 or equivalent. Introduction to the use of commercial software packages for business applications of database management; integration of material across word processing, spreadsheet and database systems.
- 215 PERSONAL FINANCE (3)
Sources of personal income, saving and consumer spending patterns. Development of techniques for planning and budgeting consumption expenditures and saving, with special emphasis on the use of saving allocations to achieve personal goals; real property, insurance, financial investment, retirement, estate and tax planning.
- 216 PERSONAL INVESTMENTS (3)
(Not intended for students who plan to be business administration majors.) Description of securities markets and trading of stocks and bonds. Characteristics of other investments including options, convertible securities, mutual funds and tangible investments. Investment risk and portfolio management.
- 255 BUSINESS STATISTICS (4)
Prereq: Math 157 or equivalent. Statistical methods used in business research, analysis and decision-making; preparation and presentation of data, frequency distributions, measures of central tendency and dispersion, statistical inference, regression and correlation.
- 308 MANAGEMENT INFORMATION
SYSTEMS (4)
Prereq: FMDS 201 or equivalent (or concurrent) recommended. Describes the role of MIS in management, including current professional practices and methodologies. Includes presentation of systems theory, decision theory, organizational models, types of MIS, MIS planning and MIS development.
- 309 ADVANCED MANAGEMENT
INFORMATION SYSTEMS (4)
Prereq: FMDS 202; FMDS 308 or Acctg 321. Use management information systems techniques to solve managerial and organizational problems of limited complexity. Includes solving formal analytic problems and implementing solutions using MIS development techniques. Includes supervised structured laboratory exercises.
- 330 PRINCIPLES OF MARKETING (4)
Prereq: Mgmt 271, Econ 206. Institutions, functions, problems and policies in the distribution of industrial and consumer goods; pricing, costs and governmental regulations.
- 341 PRINCIPLES OF FINANCE (4)
Prereq: Acctg 242, FMDS 255, spreadsheet competence. Structure and operation of financial management; problems of internal financial analysis, planning and control, capital structure and investment decisions, valuation, dividend policy, mergers, acquisitions.
- 345 REAL ESTATE (4)
Prereq: Mgmt 271, FMDS 341. Real estate law; government regulation of real estate use; development, marketing and financing of commercial and residential real estate.
- 346 RISK AND INSURANCE (3)
Personal and organizational risk and the means by which such risk may be minimized, transferred or otherwise managed to avoid serious financial loss.
- 348 ENGINEERING ECONOMY (4)
Prereq: junior status in engineering technology. (Not open to CBE majors.) Methods for evaluating benefits from proposed engineering ventures in relation to costs associated with the undertaking. Problems, such as the economic selection of equipment and economic justification of projects.
- 357 APPLIED BUSINESS STATISTICS (4)
Prereq: FMDS 255. Applications of business statistics to research, analysis, and decision making in business. Regression, correlation, analysis of variance, and non-parametric tests with emphasis on the use of business-oriented computer statistical packages.
- 410 EXPERT SYSTEMS IN BUSINESS (4)
Prereq: FMDS 308 or Acctg 321. Use of artificial intelligence concepts in the development of systems for expert decision making with application to business problems. Review and use of selected commercial expert systems software packages.

- 411 **BUSINESS DATABASE DEVELOPMENT (4)**
Prereq: FMDS 308 or Acctg 321. Overview of database use in modern business organizations. Alternative data models and normalization of data. Database design methodologies. Development of a database application using commercial software in microcomputer environment.
- 413 **TOPICS IN MANAGEMENT INFORMATION SYSTEMS (2-4)**
Prereq: FMDS 308 or Acctg 321. Varying topics in management information systems such as use of commercial information utilities, data communications systems, business graphics, and office automation. Repeatable with various topics to a maximum of 12 credits.
- 414 **APPLIED DECISION SCIENCE (4)**
Prereq: FMDS 308. Application of quantitative techniques to the solution of decision problems in organizations. Emphasis on the use of computer tools such as spread-sheet programs and linear programming.
- 430 **MARKETING RESEARCH (4)**
Prereq: FMDS 330, 357 or equivalent, computer literacy; Soc 320 recommended. Marketing problems posed by executive decision; techniques applicable to product selection, advertising and motivation research; research methodology; research design and decision models in marketing; individual research projects.
- 431 **PROMOTION MANAGEMENT (4)**
Prereq: FMDS 330, computer literacy. Management of the promotional function within the marketing program; advertising, sales promotion, public relations, direct marketing. Promotional objectives and strategies; organization of advertising function; media selection and evaluation; advertising research; new developments such as use of computer and mathematical models.
- 432 **SALES MANAGEMENT (4)**
Prereq: FMDS 330. Nature of personal selling with emphasis on industrial sales effort and management of sales personnel.
- 433 **MARKETING MANAGEMENT (4)**
Prereq: FMDS 330, computer literacy; FMDS 357 or equivalent and FMDS 430 recommended. Objectives, strategies and organization of marketing departments in large and medium-sized firms. Emphasis upon operating, control and evaluation.
- 434 **MANAGEMENT OF DISTRIBUTION SYSTEMS (4)**
Prereq: FMDS 330, computer literacy; FMDS 357 or equivalent and FMDS 430 recommended. Analysis of organizational structure, operations and management of wholesale, retail and other intermediaries in the channels of distribution.
- 435 **CONSUMER BEHAVIOR (4)**
Prereq: FMDS 330, 357 or equivalent, computer literacy; FMDS 430 recommended. Relevance of customer behavior in household and organizational markets for marketing management planning and analysis; the consumer decision-making process and its implications for marketing mix variables.
- 436 **INTERNATIONAL MARKETING MANAGEMENT (4)**
Prereq: FMDS 330, 341, computer literacy; FMDS 470 recommended. Formulation and implementation of international marketing strategies. Analysis of the contemporary global marketing environment; marketing mix issues and decisions in international markets; global competitive analysis and strategy; organizing for international marketing; current problems and practices in multinational firms.
- 440 **INVESTMENTS (4)**
Prereq: FMDS 341. Operation of securities markets and investment risk and return. Analysis of security characteristics and the issues of portfolio selection and management.
- 441 **INTERMEDIATE FINANCIAL MANAGEMENT (4)**
Prereq: FMDS 341, 357, 440. An integrated approach to financial management including study of intermediate-level financial theory and its application to financial decision making under uncertainty.
- 444 **FINANCIAL INSTITUTIONS AND MARKETS (4)**
Prereq: FMDS 341. Structure and functions of the money and capital markets; the saving investment process and financial intermediaries; supply and demand for loanable funds and the level and structure of interest rates.
- 446 **OPTIONS AND FUTURES MARKETS (4)**
Prereq: FMDS 357, 440. Advanced study of option strategies, option pricing models and efficiency of options markets. Description of futures markets hedging theory and practice. Emphasis on role of options and futures in management of risk.

447 COMMERCIAL BANK MANAGEMENT (4)

Prereq: FMDS 444. Management of commercial banks and similar depository institutions, emphasizing the measurement and control of risk in asset and liability management. Issues in contemporary banking.

448 INVESTMENT ANALYSIS AND MANAGEMENT (4)

Prereq: FMDS 357, 440. Advanced study of recent developments in financial theory and presentation of empirical evidence relative to the determination of investment value of financial assets. Emphasis on management of investment portfolios in efficient markets. Special topics of current interest.

449 CASES IN FINANCIAL MANAGEMENT (4)

Prereq: FMDS 441; knowledge of spreadsheets. Case studies are utilized to develop insight and provide experience in the application of financial theory and practice to such decision-making areas as working capital management, capital budgeting, capital structure determination and dividend policy.

456 COMMERCIAL REAL ESTATE INVESTMENT (4)

Prereq: FMDS 345. Investment strategy, selection, financing, appraisal of income properties such as rentals, apartments, condos, office buildings, shopping centers and other secure purpose real estate.

458 BUSINESS FORECASTING (4)

Prereq: FMDS 357 or equivalent. Introduction to business forecasting for managers. Emphasis on forecasting at the firm and industry level rather than aggregate economic forecasting. Techniques include exponential smoothing, ARIMA models, decomposition methods, econometric methods for managerial applications, judgmental and Bayesian forecasting. A project using business data is required.

470 INTERNATIONAL BUSINESS (4)

Prereq: FMDS 330, 341, or permission of instructor. Environment of international business and its impact on the firm. Globalization of markets, the multinational corporation, adjustments of business operations and products to foreign conditions.



473 INTERNATIONAL TRADE OPERATIONS (3)

Prereq: FMDS 470 or permission of instructor. Operations of firms using exporting as a means to serve foreign markets. Focus on export operations (documentation, transport, support services, financing); practical aspects of contract negotiations; alternative methods of export business arrangements.

490 INTERNSHIP IN BUSINESS ADMINISTRATION (1-4)

Prereq: business administration majors only. Practical application of skills and theories learned in the classroom through work or special project experience in private or public organizations. Repeatable to a maximum of 12 credits.

495 BUSINESS POLICY (4)

Prereq: Mgmt 311, 360, FMDS 308 (or Acctg 322), 330, 341. Case study of policy making and administration from a general management point of view. Emphasis on problem analysis, the decision-making process, administration and control, and development of policies and objectives.

Management

Management describes what is perhaps the most challenging and difficult of human endeavors. It is the process by which we attempt to attain goals beyond the reach of a single individual. It requires that we work effectively and efficiently with and through others. It is not a single skill, but rather a dynamic body of knowledge with the goal of the fusion of multiple and diverse skills possessed by many into a single instrument whose effectiveness exceeds the sum of its parts. Management is eclectic, drawing upon the entire fund of human knowledge and experience that is necessary to attain the goals established. Management is also almost universal in application. Any time two or more people join together in pursuit of a common goal and one leads by virtue of skill, experience, personality or authority, management has been initiated.

PROGRAM OBJECTIVES

The development of the curricula in the Department of Management has been guided by the standards of the American Assembly of Collegiate Schools of Business and those of the Academy of Management. These standards stress a broad education preparing students for managerial roles in business and leadership roles in society.

The department educational objectives are:

1. To develop competence in analysis, decision making and evaluation in both public and private organizations.
2. To develop and enrich interpersonal skills.
3. To develop the competence to manage within the social, economic and international environment of organizations.
4. To provide access to the technical skills necessary in each of the

major functional areas of organizations with specific emphasis on the core elements of people and production.

5. To enhance educational opportunity through the theoretical and applied research and business consulting activities of its faculty and students.
6. To encourage intellectual inquiry into the lessons and skills of the past and present so as to be able to affect the future.
7. To develop and promote ethical behavior and social responsibility in future managers.

THE CURRICULUM

Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements and foundation courses in the major. Several foundation courses may also satisfy General University Requirements. Careful planning may save time for additional elective coursework. Electives which emphasize oral and written communication skills are particularly recommended. The junior and senior years are primarily devoted to core degree requirements and elective coursework.

STUDENT ADVISING

For answers to routine questions, and prior to declaration, students should consult this catalog and the department's "Planning Guide." For non-routine questions, inquiry should be made at the departmental office for referral to an appropriate faculty member. A faculty adviser will be assigned to each student upon acceptance into the major.

MANAGEMENT FACULTY

BRUCE D. WONDER (1981) Chair.
Associate Professor. BS, University of California; MS, San Francisco State University; PhD, University of Washington.

Management

- JOSEPH E. GARCIA (1985) Associate Professor. BA, State University of New York College at Cortland; MA, Western Washington State College; PhD, University of Utah.
- PETER HAUG (1986) Associate Professor. BA, State University of New York at Fredonia; MA, University of Maine; MBA, College of William & Mary; MPhil, University of Edinburgh; PhD, University of Washington.
- KENNETH S. KELEMAN (1977) Professor. BA, MA, San Diego State University; PhD, University of Utah.
- PATRICIA C. KELLEY (1990) Assistant Professor. BA, University of New Hampshire; MBA, PhD, Boston University.
- EUGENE OWENS (1975) Professor. BA, University of Arizona; MS, Purdue University; MS, George Washington University; PhD, University of California, Los Angeles.
- LOISE E. PETERSEN (1974) Associate Professor. BA, Wartburg College; MEd, Oregon State University; EdD, University of North Dakota.
- E. LEROY PLUMLEE (1976) Professor. BBA, Texas Tech University; MS, Northern Illinois University; PhD, Texas Tech University.
- MARK C. SPRINGER (1987) Assistant Professor. BA, University of Cincinnati; MBA, PhD, Vanderbilt University.
- DANIEL M. WARNER (1978) Assistant Professor. BA, JD, University of Washington; MA, Western Washington University.

DECLARATION OF MAJOR

To be eligible to declare a major in business administration (management), a student must have (1) earned at least 75 credits, and (2) completed the following foundation courses (or equivalent courses) with a grade point average at or above 2.75.

- Acctg 241, 242, 243
- Econ 206, 207
- FMDS 255
- Mgmt 271
- Math 157

Declaration should be accomplished as early as possible since acceptance as a major provides priority access to upper-division classes. Applications for admission to the major may be submitted at any time during each quarter. Transfer students may be considered for admission prior to enrollment at WWU.

Upon acceptance to the major, each student is assigned a faculty adviser. The student shall arrange to meet with that faculty member for aca-

demical advisement prior to registering for the following quarter.

ENROLLMENT PRIORITIES

Because of high student demand for management courses, the department must give enrollment priority to students for whom those courses are requirements rather than electives. Priority is given to majors in the College of Business and Economics and other declared majors for whom the classes are required.

BACHELOR OF ARTS

Major — Business

Administration (Management)

90-92 credits

- Foundation Courses (32 credits):
Acctg 241, 242, 243
Econ 206, 207
FMDS 255
Mgmt 271
Math 157
- Core Courses (44 credits):
Econ 409
FMDS 308, 330, 341, 357, 495*
Mgmt 311, 312, 322, 360, 482

*Students may elect Mgmt 491 and 492 in lieu of FMDS 495

- Elective Courses (14-16 credits):
A minimum of 14-16 credits of approved upper-division elective courses are required to complete the major. A student may wish to concentrate these electives. Faculty recommended concentrations are listed below.

Concentrations

Human Resource Management

- Select four courses from Mgmt 401, 404, 423, 424, 425, 426 or 427

Management

- Mgmt 401, 405, 406
- Select one course from Mgmt 301, 402, 471 or 481

Production/Operations Management

- Mgmt 460, 463, 468

- Select one course from Mgmt 365, 366, 367, 465 or 469

General

- In lieu of completing one of the above concentrations, students in the department may elect to work with their faculty adviser to design a set of four upper-division CBE courses appropriate to their academic interests. The resulting course of study shall have prior approval of the adviser and include at least two courses offered through the Management Department*

**Students interested in entrepreneurial management should select the general option and inform the department of that interest. They will be advised of the preferred curriculum choices for students intending to embark upon entrepreneurial careers or careers in small business.*

Minor — Business Administration

40 credits

- Acctg 241, 242
- Econ 206, 207
- FMDS 255, 330, 341
- Mgmt 271, 311
- Math 157

COURSES IN MANAGEMENT

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 201 INTRODUCTION TO BUSINESS (4)
A survey of the field. Introduction to the major functional areas comprising business or organizations. Recommended for students not intending to major in the College of Business and Economics.
- 271 LAW AND THE BUSINESS ENVIRONMENT (4)
Historical development of legal institutions, the judicial process, and impact of the law upon individual and business decision making.
- 301 BUSINESS COMMUNICATIONS (4)
Prereq: Eng 101 or equivalent. Business writing principles applied to various types of communications and reports. Cases used; work must be submitted in acceptable business format.

- 311 INTRODUCTION TO MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (4)
Introduction to organization theory, behavior and interpersonal communication; concepts of power, authority and influence; the role of philosophy and values in organizations.
- 312 BEHAVIORAL PROCESSES FOR MANAGEMENT (4)
Prereq: Mgmt 311. Development of critical managerial skills at the individual, interpersonal and group levels.
- 315 RECORDS AND INFORMATION MANAGEMENT (4)
Prereq: Mgmt 311. Organization and maintenance of records systems for hard copy, microimagery and electronic storage systems. Project approach is used.
- 322 HUMAN RESOURCE MANAGEMENT (4)
Prereq: Mgmt 271, 311. Recruitment, selection, utilization, and development of human resources, with emphasis on employee-management relations and relevant behavioral research.
- 360 OPERATIONS MANAGEMENT (4)
Prereq: FMDS 255, Acctg 243. Examination of concepts for planning, organizing, and controlling manufacturing and service operations. Topics include process systems, forecasting models, facility location and layout, production planning, inventory systems, project scheduling and quality assurance.
- 365 INDUSTRIAL PURCHASING (4)
Prereq: Mgmt 311, FMDS 330. The interaction of buyer and seller in the industrial environment. Problems met in purchasing by industrial organizations.
- 366 INTERNATIONAL OPERATIONS MANAGEMENT (4)
Prereq: Mgmt 360. Analysis of issues and problems experienced in managing international operations. Topics include international logistics, facility location, production planning, technology transfer, foreign manufacturing systems and management of operations in the Pacific Rim.
- 367 MANAGEMENT OF SERVICE OPERATIONS (4)
Prereq: Mgmt 360. Concepts and techniques for designing, planning and controlling service operations. Topics include service site location, service facilities design, managing capacity and demand in service operations, work force scheduling, the queuing phenomenon and the impact of new technology on service operations.

Management

- 380 BUSINESS HISTORY OF THE UNITED STATES (4)
Prereq: Econ 206. Business history of the United States. Review and analysis of the organizational methods, performance, climate and entrepreneurship of American business from 1780 to the present.
- 401 ORGANIZATIONAL BEHAVIOR (4)
Prereq: Mgmt 312. Individual and group behavior in organizations. Case problems and experiential learning exercises are utilized.
- 402 SEMINAR IN ORGANIZATIONAL THEORY (4)
Prereq: Mgmt 311. Current research: measuring organizational effectiveness, planning, leadership patterns, and current problems.
- 404 ORGANIZATION DEVELOPMENT (4)
Prereq: Mgmt 322 or equivalent. Current research and application to planned organizational change and internal training techniques.
- 405 INTRODUCTION TO MANAGERIAL BEHAVIOR (2)
Prereq: Mgmt 311. Applied managerial techniques explored in a supervised environment.
- 406 ADVANCED MANAGERIAL BEHAVIOR (4)
Prereq: Mgmt 405. Under supervision, students will be responsible for design of and conduct of Mgmt 405 sessions. Comparison, analysis and critique of relative success of techniques explored.
- 423 STAFFING (4)
Prereq: Mgmt 322. Recruiting and selection as related to organizational objectives. Legal requirements, selection models, validation, and topical issues of importance.
- 424 TRAINING AND DEVELOPMENT (4)
Prereq: Mgmt 322 or equivalent. Training as related to organizational objectives. Training models, learning theory, evaluation methodologies, instructional techniques and topics of special interest will be emphasized.
- 425 INDUSTRIAL RELATIONS ADMINISTRATION (4)
Prereq: Mgmt 322. Cases, lectures, and collective bargaining simulation are used to develop administrative skill in dealing with union-management relations. Nature of unions, institutional forces conditioning collective bargaining practices, and administrative practices dealing with unions.
- 426 CURRENT ISSUES IN HUMAN RESOURCE MANAGEMENT (4)
Prereq: Mgmt 322. Current problems in policy and practice used in personnel and industrial relations administration.
- 427 COMPENSATION ADMINISTRATION (4)
Prereq: Mgmt 311, 322. Examination of theories, models, and procedures required to develop compensation and reward systems in organizations. Economic, psychological and social elements of compensation. Determination of compensation structures and differentials, forms of compensation and reward, compensation levels.
- 460 OPERATIONS DESIGN SYSTEMS (4)
Prereq: Mgmt 360. Examination of project planning and the design of integrated manufacturing systems. Covers critical path method (CPM), program evaluation and review technique (PERT), production systems, facility layout and location, group technology, and design of flexible, computer-integrated and just-in-time manufacturing systems.
- 463 OPERATIONS PLANNING SYSTEMS (4)
Prereq: Mgmt 360. Study of the principles and techniques for planning production. Topics include forecasting, master scheduling, capacity planning, material requirements planning (MRP), just-in-time manufacturing (JIT) and optimized production technology (OPT).
- 465 OPERATIONS CONTROL SYSTEMS (4)
Prereq: Mgmt 360. Study of the principles and techniques for controlling manufacturing and service operations. Topics include shop floor control, inventory control, quality control management, and scheduling for just-in-time (JIT) and flexible manufacturing systems (FMS).
- 468 OPERATIONS POLICY AND STRATEGY (4)
Prereq: Mgmt 360. Review of operations management principles and examination of current topics in domestic and international manufacturing and service operations. Detailed analysis of case studies in production and operations management.
- 469 OPERATIONS MANAGEMENT FIELD STUDY (4)
Prereq: Mgmt 360 and permission of instructor. Field-based study of operations management theory and concepts applied to current manufacturing and service operations problems. Course involves facility tours and projects on actual manufacturing or service problems.

471 SOCIAL ISSUES IN INTERNATIONAL MANAGEMENT (4)

Prereq: Mgmt 311. Introduces students to policy-making decisions of multinational corporations and how the effects of culture and alternative socioeconomic systems can have an impact on business' strategy. Taught primarily through case study and field work.

481 MANAGING CULTURAL DIVERSITY (4)

Prereq: Mgmt 312. Management of persons from diverse countries and cultures. Culture-specific issues and issues of diversity in the workplace. Course involves problems, cases and research assignments associated with managing in a multicultural and international work environment.

482 BUSINESS AND ITS ENVIRONMENT (4)

Prereq: Mgmt 271 and senior status. A study of the business decision-making process as these decisions interact with the social, technological, political/legal and economic environments. The course will develop the causes and the effects of regulation of business.

490 INTERNSHIP IN BUSINESS ADMINISTRATION (1-4)

Prereq: business administration majors only. Practical application of skills and theories learned in the classroom through work or special project experience in private or public organizations. Repeatable to 12 credits.

491 SMALL BUSINESS ENTREPRENEURSHIP (4)

Prereq: Mgmt 311, 360, FMDS 308, 330, 341. Planning, marketing, financial, legal, control and human elements associated with the start up, acquisition and operation of a small business from the entrepreneurial point of view.

492 ENTREPRENEURIAL PROBLEMS (4)

Prereq: Mgmt 491 or concurrent with Mgmt 491. Field consulting work and study under faculty supervision with small business entrepreneurs in the local business community, directed towards solving varied real-life small business problems.



Master of Business Administration

PROGRAM PURPOSE

The Master of Business Administration (MBA) Program is a graduate business program that seeks to prepare students for responsible leadership positions in private, public and non-profit organizations. The purpose of the program is to provide broad training in the skills needed by the professional manager. The Western MBA Program is a rigorous, integrated program that focuses on quantitative, theoretical and analytical skills. It strives to provide a proper balance of theory and application essential for managerial excellence. The program is intended for both the active manager or technical supervisor as well as those looking for new opportunities at the mid-management level. Regardless of undergraduate education, the candidates will find a challenging program designed to meet their specific background and needs.

PROGRAM OF STUDY

Both a full-time and a part-time program of study are offered. The program is comprised of 15 to 18 four-credit courses. Students with a non-business/quantitative background are normally required to take all 18 courses. Students with an undergraduate record in business or economics may make application to waive certain foundation courses. The foundation consists of courses in accounting, management, quantitative skills, finance, economics and computer information systems. The balance of the program is comprised of advanced courses in some of the above areas and elective courses. All students are able to select at least four electives.

Classes are offered in the evening, and students attend four quarters a

year. A new class is admitted for June of each year. Some students may be able to have the first summer quarter classes waived and start the program in the fall. Part-time students take two courses per quarter and require nine consecutive quarters to complete the degree. Full-time students proceed at a pace of four courses per quarter and will normally complete their requirements in 14 months.

To apply for admission, send a completed official application form to the Graduate School along with an application fee, official transcripts, GMAT scores and a resume showing work experience. (Further information is provided in the Graduate School section of this catalog.)

PROGRAM REQUIREMENTS

- Knowledge Prerequisites: Normally an applicant to the program must have completed a college-level algebra and calculus course prior to entering the program. It also is expected that entering students will have competence in the use of microcomputers and common business software such as spreadsheets. Well-developed communications skills also are important.
- Foundation Courses (24 credits): MBA 501, 502, 504, 505, 506, 507
- Core Courses (28 credits): MBA 511, 531, 541, 551, 561, 581, 591
- Elective Courses (20 credits): One course from MBA 522, 523, 524. Four elective courses under advisement, selected from course work reserved exclusively for graduate students. No more than eight of these elective credits may be taken in a single field.

(Additional electives will be required if more than three of the foundation courses are waived.)

A required comprehensive examination is given as part of MBA 591.

ACADEMIC PROBATION

The Graduate School requires that all graduate students maintain a 3.00 GPA (on a 4.0 scale) to be a candidate for a degree and to remain in good academic standing. Students in the MBA Program falling below this standard will automatically be placed on academic probation, and will be allowed a maximum of 16 credits of course work to raise their cumulative GPA to 3.00 or better. If, after completing 16 additional credits, a student has failed to achieve good standing, that student will be excluded from the program.

In no case will a student be recommended for a master's degree without having achieved a 3.00 GPA or better.

MBA Courses

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501 FINANCIAL ACCOUNTING AND REPORTING CONCEPTS (4)

Prereq: permission of graduate program director. Introduction to financial statements and the concepts, principles and theories of asset valuation and income determination underlying their preparation. Analysis and interpretation of financial statements in the perspective of the management decision-making process.

502 ECONOMIC ANALYSIS FOR BUSINESS (4)

Prereq: permission of graduate program director. Examines the concepts of scarcity, opportunity cost, competitive market pricing, efficiency and the market system. In addition, the macroeconomic variables that constitute the environment of the firm such as the overall performance of the economy, money and the financial system, and monetary and fiscal policy operations will be discussed.

503 QUANTITATIVE METHODS I (4)

Prereq: permission of graduate program director. Provides students with an appreciation of the uses of quantitative methods in managerial decision-making. A heuristic approach to the essentials of linear algebra, linear programming, and the determination of minima and maxima as applied to appropriate profit, cost and production functions.

504 QUANTITATIVE METHODS II (4)

Prereq: permission of graduate program director. Provides an understanding of some of the tools that enable a manager to analyze information, including data analysis, probability distributions, statistical inference and hypothesis testing, and multivariate regression analysis.

505 BUSINESS FINANCE (4)

Prereq: MBA 501, 502 and 504. Objectives, tools and techniques of finance from the viewpoint of the financial manager of a manufacturing firm. Focus is on corporate financial decisions encompassing investment, financing, dividends and working capital management, including an introduction to financial instruments and markets.

506 COMPUTER INFORMATION SYSTEMS (4)

Prereq: permission of graduate program director. This class will present a review of the current state of computer-based information systems as they relate to the managerial functions. The emphasis in this class will be towards the computer user and computer applications for management purposes.

507 ORGANIZATIONAL BEHAVIOR (4)

Prereq: MBA 504. Techniques for the management of individual, group and intergroup behavior in organizations. Includes concepts and techniques for change, conflict resolutions and organizational development.

511 MANAGERIAL ACCOUNTING (4)

Prereq: MBA 501, 504. Conceptual approach to managerial accounting's role in an organization. Emphasis will be on the use of accounting information for management decision-making. Topics include accounting for planning and control purposes, behavioral implications associated with accounting informations, budgeting and various quantitative techniques available.



513 TAXATION AND MANAGEMENT DECISIONS (4)

Prereq: MBA 501, 511. Introduction to the various tax rules and regulations encountered by managers in operating a business. Cases and research problems are directed at emphasizing the importance of the role of taxation in management decisions.

515 SEMINAR IN MANAGERIAL ACCOUNTING AND CONTROL (4)

Prereq: MBA 511. Seminar/case study course. Focus on managerial accounting topics such as responsibility centers and transfer pricing; budgeting; and analysis of performance. Examines managerial accounting in international, service and not-for-profit entities.

516 SEMINAR IN FINANCIAL ACCOUNTING THEORY (4)

Prereq: MBA 501, 505. Analysis of why firms select rules used in financial reporting. Discussion of the economic consequences of selecting accounting policies both for management and other affected groups.

522 PERSONNEL AND INDUSTRIAL RELATIONS (4)

Prereq: MBA 507. The determination, acquisition, development, utilization and maintenance of human resources by employment organizations. Covers employment planning, recruitment and selection, training and development, performance evaluation, and compensation administration, while giving special emphasis to labor-management relations.

523 LABOR/MANAGEMENT RELATIONS (4)

Prereq: MBA 507. Analysis of the managerial implications in collective bargaining, government regulation, arbitration/mediation between management and labor in the organization.

524 MANAGERIAL SKILLS (4)

Prereq: MBA 507. Interpersonal skill building in critical management areas including stress management, delegation, communication, power and influence, meetings and conflict management.

531* MARKETING MANAGEMENT (4)

Prereq: MBA 502, 504. Staffing, direction and coordination of organizational marketing activities. Development of new products and integration with current activities to meet evolving market needs. Includes sales and advertising in both national and international markets.

532 MARKETING STRATEGY (4)

Prereq: MBA 531. Integration of marketing principles with overall objectives of the organization. Concepts and analytical techniques facilitating marketing analysis and the development of strategic plans. Strategy formulation in product planning and development, distribution and promotion, marketing research, and consumer behavior.

533 INTERNATIONAL BUSINESS (4)

Prereq: MBA 502, 505, 531. Analysis of the special economic, marketing, financial and production considerations in the international marketplace.

541 MANAGERIAL FINANCE (4)

Prereq: MBA 502, 505. Theory and policy implications of financial decision-making. Emphasis on valuation, long-term financing and investment/merger decisions.

542 EQUITY MARKETS AND PORTFOLIO ANALYSIS (4)

Prereq: MBA 505. An examination of investment risk and return, the operation of equity securities markets, equity valuation models, modern portfolio theory and portfolio management. Also, capital market efficiency, stock options and mutual funds are discussed.

544 FINANCIAL MARKET RATES AND INSTITUTIONS (4)

Prereq: MBA 505. Examination of financial institutions and the markets in which they operate. Emphasis on interest rate determinants, fixed income securities and the management of financial intermediaries. Current topics including financial futures and regulatory changes.

551 MANAGERIAL ECONOMICS (4)

Prereq: MBA 502, 504. Economic analysis provides the framework to consider the problems of resource allocations that confront managers in business, government and non-profit environments. Topics include consumer choice and demand for products, production and cost functions, alternative market structures and the profit criteria for long-run planning and investment decisions.

552 MACROECONOMIC THEORY AND POLICY (4)

Prereq: MBA 502. Examination of current issues in macroeconomic theory and policy. Emphasis on using macroeconomic theory to explain recent U.S. economic performance and the level of income, employment, prices and output in an economic system. Particular attention given to using and interpreting economic indicators for the U.S.

561 OPERATIONS MANAGEMENT (4)

Prereq: MBA 502, 504. Surveys the fundamentals of operations management and further develops the student's competence through case analyses. The dual emphasis on concepts and applications prepares the student for all aspects of managing an operation. Detailed coverage of operations design, planning and control.

572 INFORMATION SYSTEM MANAGEMENT (4)

Prereq: MBA 506. Acquisition, organization, monitoring and control of information resources. Discussion of issues unique to development of information systems.

576 MANAGEMENT SCIENCE (4)

Prereq: MBA 504. Application of quantitative techniques to the analysis of decision problems in organization. Emphasis on the use of computer methods.

581 BUSINESS AND ITS ENVIRONMENT (4)

Prereq: MBA 507, 531. Study of how business organizations interact with the social and political/legal environments. This course will develop the causes and effects of regulation of business and will explore the notion of "corporate social responsibility."

591 BUSINESS POLICY (4)

Study of administration and policy making from a top management viewpoint. Integrates the marketing, financial, production and functional fields of management within a strategic management framework. Case study and simulation techniques used. (MBA program comprehensive exam, in the form of an integrated case, will be a part of the course.) This course is normally taken in the last quarter of the program.

FAIRHAVEN COLLEGE

Dr. Marie D. Eaton, Dean

A COLLEGE WITHIN THE UNIVERSITY

At Fairhaven, students are challenged to bring what they learn to bear on human concerns and crucial real world problems, to experiment, to discover, and to act. This style of education supports the development of certain values and practical skills: discipline, resourcefulness, initiative, flexibility and adaptability. It is the responsibility of faculty to cultivate these attitudes in their own studies and in their classes. It is the responsibility of students to participate fully in the learning process and to shape their own goals and expectations.

Founded in 1966, Fairhaven College is an undergraduate division of Western Washington University. Its purpose is to offer students the opportunity to take an uncommon degree of responsibility for the structure and content of their own educations. The College offers training in writing and research, critical thought and creative expression, independent judgment and scholarship, self evaluation and assessment.

Fairhaven College is committed to curriculum intergration; that is, courses are expected to use a gender-conscious and multi-cultural approach to topics, resources and classroom practices.

Any WWU student can apply to enroll in Fairhaven's integrated degree program, or, if affiliated with Western's other colleges, may take Fairhaven classes to augment their selected course of study. Fairhaven students take, on the average, about half their classes from other departments within Western. They have full University status and access to all the educational, cultural and social resources of WWU.

INNOVATION

Fairhaven is an experimenting college where innovative teaching methods and varied classroom structures are welcomed. Experiential and diverse learning styles are respected and addressed. The interdisciplinary curriculum emphasizes relationships between disciplines. Important emerging studies are discussed along with and in relation to traditional knowledge. Along with a respect for the traditions of education, vital aspects of Fairhaven are the love of learning and passion for social and cultural renewal.

Fairhaven College's role in the University is not only to provide a learning environment for students interested in self-designed study and interdisciplinary learning, but also to help the University ask questions about teaching and learning. Members of the Fairhaven community seek to learn from colleagues in other colleges both within and outside of Western, through the Fairhaven Distinguished Teaching Colleague program and through exchange or guest teaching opportunities. Through the same programs, Fairhaven provides the opportunity for faculty from other colleges to develop courses with an interdisciplinary approach or experiment with new styles of pedagogy.

A STRUCTURE FOR LEARNING

At Fairhaven, students are responsible for their own learning. Students have the option of taking a regular major through any department at WWU, or building their own individually designed degree in close consultation with faculty.

A close working relationship between the teacher and the student is a continuing commitment at Fairhaven College. Classes are small and the emphasis is on open discussion and exchange of ideas. In any given quarter, students may select classes offered across the University and/or design study projects in consultation with faculty.

At Fairhaven, students are encouraged to formulate and carry out independent study projects. Faculty sponsor these projects and help students to develop the resources necessary to complete them. Field work, practica and internships can form an important part of a college education. Faculty and staff help students locate and arrange a wide variety of experiential learning opportunities.

Fairhaven College in conjunction with Western Washington University offers the following undergraduate degrees: Bachelor of Arts; Bachelor of Arts in Education; Bachelor of Fine Arts; Bachelor of Music; Bachelor of Science. Students completing the Fairhaven Interdisciplinary Concentration earn the Bachelor of Arts or Bachelor of Arts in Education.

Requirements for bachelor's degrees awarded by Fairhaven College are as follows:

- The Fairhaven Core Program
- A Fairhaven Interdisciplinary Concentration (the individually designed major) or WWU departmental major
- Minimum of 180 credits, including 60 credits at the upper-division level and 45 credits in residence
- Completion of at least 25 credits at Fairhaven and 50 credits outside of Fairhaven
- Completion of WWU writing proficiency requirements (Fairhaven 101 or 301 and Fairhaven 208 partially fulfill this requirement.)
- Scholarship and credit standards as prescribed in the *Student Guide to Fairhaven College*

NOTE: Requirements common to all undergraduate divisions of WWU are listed elsewhere in this catalog.

THE INDIVIDUALLY DESIGNED MAJOR

The Fairhaven Interdisciplinary Concentration provides an opportunity for developing an individually designed major for the Bachelor of Arts or Bachelor of Arts in Education degrees. It allows maximum flexibility in formulating a program to meet personal and career goals, bringing together each student's vital interests from more than one discipline into a cohesive whole.

The program combines college and university classes, independent studies, field work and other practical experiences relevant to the student's purposes. Students are assisted in completing the concentration by faculty and other advisers, and by a course, the *Concentration Seminar*. At the conclusion of the program, a *senior project* and a *concentration summary* help each graduate to evaluate his or her work and to look toward the future.

The following titles represent some concentrations recently completed by Fairhaven College students:

- Latin American Studies
- Video and Photographic Documentaries
- Native Cultures and Nutrition
- Spiritual Ecology
- Aging and Family Systems
- Wetlands: Assessment and Policy
- Women's Voice in Theatre and Literature
- Studies in Power: Women, Law and Policy
- Somatic Psychology
- Humanistic Philosophy of Learning, Teaching and Education
- Ideas and History: Re-Thinking the Past
- Interactive Multi-Media Systems
- Creative Expression: Writing, Art and Religion

Further information pertaining to the

concentration, its possibilities and prospects, may be found in the *Student Guide to Fairhaven College*.

THE EXPERIENCE OF GRADUATES

Fairhaven graduates have obtained positions in virtually all fields, including: business & industry; communications, journalism & research; creative writing; community service, counseling & health; education; fine & performing arts; government — local, state, national; medicine, law, ministry; public & international relations.

Graduates have independently ventured into the private sector, started their own businesses, created new jobs in established organizations and distinguished themselves in research and publication.

Many graduates have pursued advanced studies. The following are some of the schools which have accepted Fairhaven graduates: Boston University, Columbia University, University of Washington, Harvard University, The Juilliard School, U.C. Berkeley, University of Puget Sound Law School, Stanford University, Princeton, San Francisco Art Institute, Canterbury University (England), Leuven-Kortrijk University (Belgium), University of Paris (France), Waseda University (Japan) and many more in the U.S. and abroad.

In preparation for graduation, students are invited to review their academic files with faculty and staff. Transcripts, class evaluations, concentration documents, letters of reference — these and other materials may be organized for use in employment search or application to graduate schools.

THE CORE PROGRAM: THREE CURRICULAR STAGES

The core program, unique to Fairhaven College, includes a series of

courses designed to widen students' exposure to areas of study and to connections among disciplines. Its purpose is to help students become perceptive, probing learners who can ask questions and pursue answers with care and confidence. Skills in reading, writing, presentation and analysis are emphasized. Each course deals with the methods of knowing and understanding, the unique objects of knowledge, the modes of creativity and the practical applications to be found in each area of study.

Fairhaven College offers the opportunity for self-motivated students who have demonstrated exceptional learning skills to design an individualized alternative to parts of the core program (Hum, Soc, Sci I & II), making systematic use of existing course challenge procedures.

There are core courses in each of three curricular stages. Students need not complete one curricular stage before advancing to the next.

STAGE 1: EXPLORATORY STUDIES

Studies to gain basic skills of thought and expression, and to develop broad perspectives in the areas of human inquiry and experience:

- 101 Foundations Seminar or
- 301 Transfer Seminar: Methods of Interdisciplinary Study
- 202 Humanities and The Expressive Arts I
- 204 Society and The Individual I
- 206 Science and Our Place on the Planet I
- 208 Writing Competency
- 209 Transition Conference
- 302 Humanities and The Expressive Arts II
- 304 Society and The Individual II
- 306 Science and Our Place on the Planet II

STAGE 2: CONCENTRATED STUDIES

Studies to sharpen, deepen and integrate knowledge, to learn different approaches to scholarship, to frame questions and find ways to answer them.

Complete one of the following options:

Option A: The individually designed major — "Fairhaven Interdisciplinary Concentration"

303 Concentration Seminar

- Components of Concentration:
- Proposal of study
 - Completion of course of study
 - Senior project
 - Student summary and evaluation
 - Committee review and approval

OR

Option B: A major in one of the departments of Western Washington University. (See departmental requirements.)

Fairhaven offers the opportunity for majors in highly specialized disciplines (the sciences, the arts, environmental studies, and other) to integrate and broaden their studies.

STAGE 3: ADVANCED STUDIES

Studies to demonstrate understanding of knowledge gained and to assimilate and synthesize what has been learned; discovery of ways in which one's specialization may be generalized to other fields and applied to society.

- 401 Senior Project (Option A students only)
- 403 Advanced Seminar (Both Option A and Option B students)

SPECIAL PROGRAMS

LAW AND DIVERSITY PROGRAM. In the fall of 1991 Fairhaven inaugurates a pilot program to provide special

preparation for legal careers to students who are interested in law, diversity and access to the legal system for under-represented groups. Entering at the junior level, students become part of an on-going learning community as they take required courses (economics, political structures and systems, ethical issues and historical background) at Fairhaven and other WWU departments. A weekly integrative seminar, as well as guest speakers, attorney mentors and a 16-credit legal internship will reveal the many relationships between law and culture. The program will meet the requirements of a Fairhaven concentration and lead to a Bachelor of Arts degree.

THEMATIC AND INTENSIVE STUDIES. The College may offer several classes in a single quarter which focus on particular topics, issues or themes. For example, "Canons in Conflict" involved the entire faculty and 80 students in a quarter devoted to examining the debate and conflict over standards and conventions of knowledge in education today. Forthcoming themes include a 15-credit course on "The Televised Mind" (fall, 1991) and, in the planning stages, the quincentennial of Columbus' "Discovery" of America (fall, 1992). Independent field studies abroad or community internships might consume a full quarter registration.

PROFESSIONAL EDUCATION. For students wishing to acquire teaching credentials, Western's College of Education offers a choice of majors — including certain Fairhaven Concentrations — appropriate to public school teaching. Faculty advise students in the construction of their programs and work closely with the College of Education in helping the student to complete requirements. The document, "Policies and Procedures for the Student/Faculty Designed Programs for Teacher Certification at Fairhaven College," is available from the Fairhaven main office.



THE UPSIDE-DOWN DEGREE. The usual route to a B.A. degree calls for general education in the first two years and specialization in the last two years. Fairhaven's Upside-Down B.A. gives selected students an option to reverse this process. Graduates of Washington State community colleges who hold the ATA, the AAS, or other approved two-year technical degrees may apply to transfer their specializations to Fairhaven as the completed major. Stages 1 and 3 of the curriculum and a minimum of 90 credits are then required for graduation. Students are expected to complete as much as possible of their elective credit at the upper-division level (courses numbered 300 or above). *Each application for this program is reviewed on an individual basis. Students are urged to contact the College early in the admissions process.*

ADVISEMENT AND FOUNDATIONS

Careful advisement is stressed at Fairhaven, and is always available from members of the faculty and staff. The College schedules its own advisement sessions for entering students. During their first quarter,

students take the core Foundations Seminar or Transfer Seminar and are assigned a faculty adviser. The faculty and staff then meet with the students throughout their course of study.

GRADING AND EVALUATION

At Fairhaven, the A-to-F grading system is not used. Classes and studies are taken on a "Satisfactory/Unsatisfactory" basis. Academic credit is granted after requirements have been satisfactorily completed and the student has submitted a written self-evaluation of his or her work to faculty instructors. Faculty respond with a written evaluation of the student's progress. The student-faculty evaluation becomes a part of the student's academic file, and forms part of the student's credentials for applying for employment and for graduate programs.

The official transcript, held in the University's Registrar's Office, lists all Fairhaven and other WWU classes (normally graded) and studies completed. Fairhaven College complies with the *Student Records Policy* of Western Washington University found elsewhere in this catalog.

TUITION, FINANCIAL AID, AND SCHOLARSHIPS

Fairhaven students pay the same tuition and fees as students of other colleges in the University. See other sections of this catalog for specific details. Information regarding federal, state and private financial assistance and application procedures should be addressed to: Office of Student Financial Resources, Western Washington University, Bellingham, WA 98225. Fairhaven offers scholarships to selected students. Write separately to Fairhaven College for information.

APPLYING FOR ADMISSION, VISITING FAIRHAVEN

Students currently enrolled in other programs at Western may transfer to Fairhaven fall, winter or spring quarter. They must then satisfy Fairhaven's requirements for bachelor's degrees. Transfer students from other WWU divisions or other colleges and universities may have some core requirements waived upon admission.

New applicants to Fairhaven and to the University complete the Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities in the State of Washington.

The words "Fairhaven College" should be written at the top of the form. Send the standard application and all transcripts to: Office of Admissions, Western Washington University, Bellingham, WA 98225.

In addition to the uniform application, Fairhaven requests a personal statement, two letters of recommendation, and an interview (in person or by telephone). **Before providing these materials** (and to make an appointment) please call (206) 675-3680.

We encourage you to pay us a visit. If you contact us in advance, we can arrange appointments with the Dean, an admissions adviser, faculty, students or other WWU staff.

FAIRHAVEN COLLEGE FACULTY

- MARIE D. EATON (1975) Professor and Dean of Fairhaven College. BA, Pomona College; MEd, PhD, University of Washington.
- KATHRYN L. ANDERSON (1972) Associate Professor. BA, MA, University of Iowa; PhD, University of Washington.
- JOSEPH BETTIS (1975) Professor. BA, Southern Methodist; BD, Drew University; MA, PhD, Princeton University.
- GARY BORNZIN (1981) Assistant Professor. BS, California Institute of Technology; MS, PhD, University of Colorado.
- MICHAEL J. BURNETT (1969) Associate Professor. BA, University of Illinois; MA, PhD, Claremont Graduate School.
- LESLIE CONTON (1980) Associate Professor. BA, Oberlin College; MA, PhD, University of Oregon.
- CONSTANCE P. FAULKNER (1968) Professor. BS, PhD, University of Utah.
- PAUL C. GLENN (1969) Associate Professor. BA, University of Washington; MFA, Stanford University.
- WILLIAM H. HEID (1968) Associate Professor. BA, Denison University; MS, PhD, University of Washington.
- DANA C. JACK (1982) Lecturer. BA, Mount Holyoke; MSW, University of Washington; EdD, Harvard University.
- RAND F. JACK (1971) Professor. BA, Princeton University; LLB, Yale University Law School.
- ROBERT H. KELLER (1968) Professor. AB, University of Puget Sound; BD, MA, PhD, University of Chicago.
- DANIEL M. LARNER (1968) Professor. AB, Harvard College; MS, PhD, University of Wisconsin, Madison.
- DAVID T. MASON (1966) Professor. AB, Reed College; MA, PhD, University of California, Davis.
- JOHN C. MCCLENDON (1971) Associate Professor. BA, MA, San Francisco State College.
- DONALD B. McLEOD (1963) Professor. BA, Whitman College; MA, University of Montana.

Adjunct Faculty

- LAWRENCE J. ESTRADA (1989) Assistant Vice President for Student Affairs/Diversity. BA, University of California, Santa Barbara; MEd, Whittier College; PhD, University of California, Los Angeles.

Fairhaven Distinguished Teaching Colleague. Each year a faculty member of another WWU department is invited to teach at Fairhaven.

Faculty Specialties include American literature, anthropology, art and art history, Asian studies, biology, constitutional and environmental law,

creative writing, theory and practice of teaching, ecology, economics, European and Russian literature, history and philosophy of science, human development, limnology, mathematics, Middle East studies, oceania, philosophy, physics, psychology and psychology of women, contemporary religion, religion and the arts, play and scriptwriting, social theory, U.S. and Native American history, theater and drama, women studies.

Other Members Of The Western Washington University Faculty, from various departments and programs, contribute to Fairhaven's curriculum as teachers of classes, members of advisory committees for concentrations, and as lecturers. Visiting faculty and guest lecturers from other universities, and from a variety of other occupations, also add to the resources available to Fairhaven students.

THE REGISTRATION PROCESS

UNIVERSITY REGISTRATION. Registration for Fairhaven College offerings occurs during scheduled University registration. Registration appointments are mailed to all students by the University. Registration for Fairhaven College variable credit classes and independent studies is via a faculty-signed *Independent Study Permit Card*.

FAIRHAVEN COLLEGE STUDENTS. Credit earned by Fairhaven students taking Fairhaven classes may apply to the core requirements, to the concentration, or to the general 180-credit requirement for graduation. Credit earned by Fairhaven students taking other WWU classes may apply to the major or concentration, or to the 180-credit requirement for graduation.

OTHER WWU STUDENTS. Fairhaven College credit earned by students affiliated with Western's other divisions is applied to the general 180-credit requirement for graduation.

Fairhaven's courses and studies are open to all WWU students.

THE FAIRHAVEN COLLEGE QUARTERLY COURSE SCHEDULE. Available prior to registration in the fall, winter and spring — announces schedule changes and additions and it describes in detail Fairhaven's offerings each term. Students are advised to consult the schedule before finalizing their programs.

FAIRHAVEN COLLEGE COURSES AND STUDIES

FAIRHAVEN'S 1991-93 CURRICULUM. The courses and studies listed in this catalog will be offered during the 1991-93 academic years. Additional classes will be announced and described in the Fairhaven College Quarterly Class Description booklet, available at Fairhaven and the Registrar's Office.

At Fairhaven, new courses are constantly being developed by faculty and account for about one-half of the course offerings. In the last biennium such courses included History of Sports in America Lummi Indian History and Culture; Women and the Law; Spirituality, Peace and Justice-Making; The Grand Canyon; Social Services and Social Change, Effective Group Participation, New Paradigm or New Age?; The End of Nature, Creativity and Modern Art, and more.

CORE STUDIES

- 101 **CORE: FOUNDATIONS SEMINAR (5)**
Required of all Fairhaven College students with fewer than 90 credits the quarter of admission. An introduction to critical learning skills, aspects of educational theory, curricular structures and individualized learning. Partially satisfies the all-University writing proficiency requirement.
- 202 **CORE: HUMANITIES AND THE EXPRESSIVE ARTS I (5)**
Exploration of the assumptions and practices which inform human inquiry and creativity in literature, philosophy and the arts.

- 204 **CORE: SOCIETY AND THE INDIVIDUAL I (5)**
Introduction to the study of people as individuals and in societies, explored through works in social science, literature, history and psychology.
- 206 **CORE: SCIENCE AND OUR PLACE ON THE PLANET I (5)**
Science and technology are systematic, self-critical, intellectual activities by which a culture copes with the regular phenomena of its world. This class addresses science and its associated technological applications in Western culture and seeks to understand their limitations and potential.
- 208 **CORE: WRITING COMPETENCY (3)**
Development of a portfolio of writing and demonstration of writing competency in consultation with faculty. See *Student Guide to Fairhaven College* for procedure. Partially satisfies the all-University writing proficiency requirement.
- 209 **CORE: TRANSITION CONFERENCE (1)**
Prereq: Fair 208. Demonstration of readiness to pursue Concentrated Studies, in consultation with faculty. See the *Student Guide to Fairhaven College* for procedure.
- 301 **CORE: TRANSFER SEMINAR: METHODS OF INTERDISCIPLINARY STUDY (5)**
Required of all transfer students to Fairhaven College, with upper-division status, the quarter of admission. An introduction to self-designed interdisciplinary studies. Individualized attention to writing and independent study skills. Seminar topics will vary with instructor.
- 302 **CORE: HUMANITIES AND THE EXPRESSIVE ARTS II (5)**
Prereq: Fair 202 or permission of instructor. Critical, interdisciplinary study of the major themes, ideas, issues in the humanities and expressive arts.
- 303 **CORE: INTERDISCIPLINARY CONCENTRATION SEMINAR (5)**
Prereq: Fair 208 and 209. Required of students undertaking an Interdisciplinary Concentration. Application of procedures and assistance in ordering one's course of study into an effective concentration proposal. Credit awarded upon filing the proposal.
- 304 **CORE: SOCIETY AND THE INDIVIDUAL II (5)**
Prereq: Fair 204 or permission of instructor. Techniques of interdisciplinary study expanded and evaluated in the critical exploration of major concerns in human and social development.

- 306 **CORE: SCIENCE AND OUR PLACE ON THE PLANET II (5)**
Prereq: Fair 206 or permission of instructor. Critical exploration and techniques of interdisciplinary study in the sciences and at the common boundaries of science with the arts, philosophy, society and history.
- 401 **CORE: SENIOR PROJECT (Variable)**
Independent study required of students undertaking an Interdisciplinary Concentration. See the *Fairhaven College Guidelines for Concentrations* for more information.
- 403 **CORE: ADVANCED SEMINAR (5)**
Required of all Fairhaven College students. A forum in which students are required to reflect on, summarize and evaluate their major or concentration programs and to consider their education in relation to the world they are entering.

CONCENTRATED STUDIES

210/310/410 a-z HISTORY, CULTURE AND SOCIETY (1-6)

Analysis of social institutions: theories or issues with reference to their history, structure or meaning; cultural unity and diversity. Repeatable with various topics.

Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College Quarterly Class Description booklet as they are offered.

- 211 **THE AMERICAN LEGAL SYSTEM (5)**
NOTE: This course may be taken in partial fulfillment of the GUR Social Sciences requirement. The American legal system and how it affects individuals and society. The structure and evolving nature of the legal system, legal reasoning and the role of courts in government. Skill development in reading and analyzing court opinions. (A-F grading.)
- 212 **INTRODUCTION TO POLITICAL ECONOMY (5)**
A study of the American economic system from two perspectives: orthodox (Keynesian/neo-Keynesian) and critical; application of both theoretical frameworks to problems in modern American society.
- 213 **MAKING ANTHROPOLOGY PERSONAL: RESEARCHING AMERICAN CULTURE (4)**
Through the collection of data and analysis of local cultural phenomena, students examine the unity and diversity of American culture, and learn the methods and perspectives of cultural anthropology. Focus on popular culture, mass media, social dynamics, national rituals, symbols and myths.

- 214 TELEVISION AND MEDIA: A CRITIQUE (4)
A critical examination of the mass media with particular emphasis on television and the television industry. Television's impact and influence on American culture, society and politics.
- 215 SEXUAL MINORITIES (4)
Historical, sociological, political, psychological and cultural aspects of people who prefer modes of sexual expression other than exclusive heterosexuality.
- 216 WORLD RELIGIONS (4)
Study of the history, mythology and cultural context of various world religions. Repeatable with various topics to 12 credits.
- 217 HISTORIAN AS DETECTIVE (5)
Introduction to the challenges of investigation. Assignments develop specific research skills, an understanding of evidence and the nature of historical knowledge. Use of reference tools, historical fiction, essays and readings in classical historians: Herodotus, Thucydides, Tacitus, Gibbon.
- 218 INTRODUCTION TO HISPANO/CHICANO STUDIES (4)
An examination of the socio-political structures and institutions which have direct bearing upon the Hispano-Chicano peoples in the United States. Develops a basic understanding of the historical and cultural phenomena which form the Hispano-Chicano identity.
- 219 THE PHILOSOPHY OF NON-VIOLENCE (3)
Introduces the writings of Martin L. King and their background in the works of Tolstoy and Gandhi, comparing the philosophy of non-violence with pacifism and utopianism.
- 311 INDIAN HISTORY/FEDERAL POLICY (4)
Prereq: study of American history or politics, or study of or practical experience with Native American culture. An examination of Native American history with a special emphasis on the role of federal policy, statutory law and court decisions and how they affect modern Indian tribes.
- 312 PACIFIC RIM STUDIES (4)
Prereq: history, political science, economics or East Asian Studies course. History of the development of the Pacific Rim countries with emphasis on the understanding of economic and political developments. Repeatable with various topics to 12 credits.
- 313 THIRD-WORLD WOMEN: A PERSPECTIVE ON ECONOMIC DEVELOPMENT (4)
Prereq: Fair 212 or equivalent introductory macro-economics course. Writing by and about women of the Third World. Women's response to economic and social "reform," their changing roles and responsibilities, effects on the family, etc.
- 314 CONTEMPORARY EUROPE (4)
Prereq: European history or politics course. An examination of the complex web of regulatory, legislative, political, economic and social changes taking place as the European community carries out deeper economic and former East Bloc integration.
- 315 WORK (4)
Prereq: studies in the social sciences or the humanities. An interdisciplinary study which examines the meaning, necessity and value of our basic activity. Readings drawn from philosophy, psychology, sociology, political science and literature.
- 316 THE U.S. IN CENTRAL AMERICA (4)
Prereq: at least one course in history or political science. The history of American involvement in Central America and the development of rationales for that involvement.
- 317 ORIGINS OF CONSCIOUSNESS (3)
Study of Julian Jaynes' argument in *The Origins of Consciousness In the Breakdown of the Bi-Cameral Mind* and examination of relevant material in anthropology, psychology, philosophy and literary criticism.
- 318 MANAGERS AND ELITES: UNDERSTANDING LEADERSHIP (4)
Prereq: courses in political science, social psychology or management. Historical study of elites in the U.S. The role of managers and organizers in politics, business and labor. Psychology of leadership and organizational dynamics.
- 319 THE VIETNAM ERA (4)
Prereq: U.S. history or political science course. Historical, political, cultural changes brought about during America's Vietnam Era, 1954-1975, both here and in Vietnam.
- 411 POLITICAL ECONOMY AND THE STATUS OF WOMEN (5)
Prereq: Fair 212 or Econ 206 or 207 or equivalent micro- or macro-economics. Examination of the connections between class and gender relations and the productive and reproductive spheres; labor force participation; occupational segregation; wage and other forms of discrimination.

412 CRITIQUE OF AMERICAN CAPITALISM (5)

Prereq: Econ 207; Fair 212 or equivalent plus upper-division status. The introduction of critical social theory and its application. Open to students from any field of study. The social problems and theoretical areas to be studied will be determined from students' academic and/or work-related backgrounds.

413 CURERS, CLIENTS AND CULTURE: CROSS-CULTURAL PERSPECTIVES ON HEALTH AND ILLNESS (4)

Prereq: cross-cultural studies or permission of instructor. Examines health belief systems in cross-cultural perspective, including the roles of practitioner and patient; explanation, diagnosis and treatment of disease; the impact of modernization on non-western medical systems, and ethnicity and health care in the U.S.

415 GOVERNMENT POWER UNDER THE CONSTITUTION (5)

Study of constitutional law and the way in which the Supreme Court construes the constitution in addressing major social and political questions. Critical reading and analysis of court opinions. Questions of power distribution and conflict among the three branches of the federal government and between the states and federal government.

416 INDIVIDUAL RIGHTS UNDER THE CONSTITUTION (5)

Prereq: Fair 415 recommended. Study of constitutional law and the way in which the Supreme Court construes the constitution in addressing major social and political questions. Critical reading and analysis of court opinions. Questions of individual rights in conflict with government regulation.

417 KARL MARX ON HISTORY AND SOCIETY (4)

Prereq: background in the social sciences. Readings and discussions of Marx' works dealing with historical materialism, politics, history and social relations. Each reading will be placed within the general historical and specific polemical milieu from which it arose.

418 WOMEN, IDEAS AND CHANGE: A HISTORY OF FEMINIST THOUGHTS AND ACTIONS (4)

Prereq: WS 211 or Fair 204 or permission of instructor. A study of selected feminist thinkers and movements, the context from which they arose, the arguments and counter arguments they inspired, and the legacies they left for subsequent generations.

220/320/420 a-z LANGUAGE, LITERATURE AND COMMUNICATIONS (1-6)

Literature as expression of the human experience; creative and expository writing; structure, technique and technology of communication; semantics. Repeatable with various topics. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College Quarterly Class Description booklet.

221 COLLEGE WRITING (3)

Directed toward the student who wishes to improve expository writing skills. Theory, practice and criticism of student work.

222 IMAGINATIVE WRITING (3)

Workshop to develop and discuss student manuscripts. Repeatable to 9 credits.

223 a-c COMMUNICATION CLINIC (2 ea)

Three mini-sessions for students interested in developing or sharpening specific skills in group communication, interviewing and public speaking.

225 EXPLORING THE DICTIONARY (4)

Building vocabulary and understanding of etymology and usage through extensive analysis of words, their roots and meanings.

226 FILM AND SOCIETY (2)

Viewing and discussion of selected films with reference to social, political and cultural issues, as well as to cinematic technique. Repeatable with various topics.

228 SPEAKING WELL (3)

Practice in the art of speaking effectively, including clear articulation, responsive argument, short public speeches and storytelling. Clarity of thought and image and aptness of style and vocabulary.

321 COMMUNICATION AND GENDER (4)

Prereq: communication course. Survey and analysis of gender differences in communication behavior with a discussion of implications for personal and social change.

322 IMAGINED WORLDS (4)

Prereq: background in literature or instructor permission. Studies in the fairy tale, fantasy, or science fiction. Discussion of literary technique, recurrent themes, prototypes in myth and legend. Since authors or genres will vary from year to year, course is repeatable.

- 323 THE STORY-SHAPED WORLD: AN INTRODUCTION TO CREATIVE READING AND WRITING (4)
Prereq: upper-division status or permission of instructor. The nature of "story" and story telling, of fictional narrative, both oral and written, from fairy tale to novel. An examination of the text itself, comparing its story-telling devices with our own emotional, intellectual and aesthetic reactions.
- 325 STUDIES IN MYTH AND MYTHOLOGY (4)
Prereq: background in humanities or cultural history, literary and artistic archetypes, world mythology, comparative cosmology, symbols and the unconscious. Repeatable with various topics.
- 326 FILMS FROM NOVELS (3)
Prereq: interests or classes in writing or film. Study of films made from novels with emphasis on development of film treatments.
- 327 WOMEN AND FICTION (4)
Prereq: women studies or literature courses. Discussion of literary, social, psychological and historical issues in selected fiction written by women in the last 100 years. Repeatable with various topics.
- 328 MAKING UP THE WORLD: PLAYS, FILMS AND TELEPLAYS (4)
Prereq: one course in literature and one in theatre or drama, or permission of the instructor. Concentrates on understanding the dramatic forms common to successful contemporary works, on the qualities of imagination working in each medium, and on the social images and messages which emerge from the use of these forms.
- 421 WINTER, WRITING, AND DOSTOEVSKY (4)
Prereq: humanities courses or permission of instructor. A critical study of Dostoevsky, his life, times, works and influence as a novelist, psychologist, religious philosopher and social theoretician. Readings include the major novels and representative shorter works.
- 422 TOLSTOY! (4)
Prereq: humanities courses or permission of instructor. A critical study of Leo Tolstoy's literary evolution, moral quest and social reforms, with special reference to problems of the present time. Readings include *Anna Karenina* and representative shorter fiction; also his *Confession* and selections from his writings on religion, politics, and alternative education.
- 423 POLITICAL THEATRE IN THE 20TH CENTURY (4)
Prereq: upper-division courses in dramatic literature, history or political science, or permission of instructor. A study of the interaction of live theatre with its political environment. An emphasis on the work of Shaw and Brecht grounds this study of selected American, Canadian, British, African and South American writers.
- 424 SHAKESPEARE'S WORLD (4)
Prereq: upper-division courses in Shakespeare, dramatic literature, or permission of instructor. An examination of the language and structure of selected plays and poems of Shakespeare and his contemporaries, with emphasis on their reflection of the culture, his ory and sensibilities of the times.
- 425 ADVANCED WRITING WORKSHOP (3)
Prereq: writing courses. An advanced course for those who wish to improve their skills in writing effective prose of any kind, as well as those actively engaged in specific writing projects. Devoted to reading and analyzing student work in various stages of completion, supplemented by discussions of individual and common writing problems with emphasis on form and craftsmanship. Includes conversations with experienced writers in both the arts and sciences.
- 230/330/430 a-z NATURE, SCIENCE AND THE ENVIRONMENT (1-6)**
Analysis of systems for understanding, describing and predicting the world of nature; environmental concerns and social policy. Repeatable with various topics. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College Quarterly Class Description book'et.
- 232 COMPUTERS (4)
Studies in the hardware, software and social, economic, political, cultural and educational implications of the computer revolution. May include introduction and instruction in programming and word processing. Repeatable with various topics.
- 233a-c ORGANIC GARDENING (2 ea)
An ongoing student cooperative study, under faculty direction, of the principles and practice of organic gardening and appropriate technology, intended to enable greater self-sufficiency in harmony with the environment in rural or urban settings. Student participation in instruction.

- 234 **THE LANGUAGE OF MATHEMATICS (4)**
Introduction to various aspects of mathematical reasoning and computation, to how mathematics makes its meanings, the uses and limitations of mathematics. Repeatable with various topics.
- 331 **PATTERNS IN NATURE (4)**
Prereq: background in the sciences or literature or permission of instructor. Noting, measuring and recording recurring patterns in the environment. May include nature writing, fieldwork, and the design and execution of research projects. Repeatable with various topics to 12 credits.
- 332 **CURRENT ENVIRONMENTAL TOPICS (2-5)**
Prereq: Fair 206 or permission of instructor. The interdisciplinary context of current environmental issues, including the scientific basis for concern. Examples include acid rain, loss of genetic diversity, climate modification by logging, global warming, ozone depletion, overpopulation, nuclear waste disposal. Repeatable with various topics.
- 333 **FEMINIST SCIENCE (4)**
Prereq: Fair 206 or one course in the sciences or permission of instructor. A study of the increasing importance in the sciences of such concepts as consciousness, relatedness, perspective—dependence, wholism and metaphor—emerging from feminist critiques and from the works of such scientists as Bohm, Prigogine, Shel-drake, Capra and McClintock.
- 334 **REGIONAL ECOLOGIES (3)**
Lectures emphasizing the ecology of a large global region: e.g., tropics, arctic/ant-arctic, deserts or temperate zone. Science background not assumed.
- 433 **FRONTIERS (4)**
Prereq: Fair 206 or other science courses. Questions, trends, theories and important figures at the leading edge of physics, biology, chemistry, or mathematics. Repeatable with various topics.
- 240/340/440 a-z HUMAN DEVELOPMENT, PERSONAL IDENTITY AND SOCIALIZATION (1-6)**
Studies in historical, social, educational, cultural, psychological and physiological components of human development, personal identity and social roles. Repeatable with various topics. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College Quarterly Class Description booklet.
- 241 **STUDIES IN CARL JUNG (1)**
Basic concepts and terminology of Carl Jung through selected readings of Jung, commentaries by established Jungian authors and recorded lectures produced by the Jungian organization, "Center-point."
- 242 **THE ART OF PLAY: RECLAIMING IMAGINATION AND SPONTANEITY FOR THE ADULT (4)**
The practice of adult play with focus on methods to reclaim imagination and spontaneity. Providing an intellectual and interdisciplinary framework for understanding the nature of play through readings in philosophy, anthropology and psychology.
- 243 **AWARENESS THROUGH THE BODY (4)**
The body, its internal senses and its movements. Attention is paid both to theories and experiences of the body and its immediate environment. Repeatable to 8 credits.
- 341 **UNDERSTANDING HUMAN DEVELOPMENT (5)**
Human development through everyday processes of family, sexuality, work, community and friendship. Includes introduction to basic theories and research from psychology, anthropology, sociology and health.
- 342 **PERSONAL EMPOWERMENT (3)**
Through lecture, discussion and experiential learning, we move from expression of our knowledge and feelings about the present planetary crisis to the articulation, definition and experience of individual and group power.
- 343 **DEATH AND DYING (6)**
The implications of one's death for philosophy, culture, art, literature, aging, economics, psychology, medicine and living. The class draws upon books, essays, films, field trips and personal experience.
- 344 **ADULT DEVELOPMENT IN WOMEN: CHOICES AND CONFLICT (4)**
Prereq: previous courses in psychology. Study of major theories of adult development, including Jung, self-in-relation and cognitive-developmental theorists. Theories will be applied to narratives of actual lives, as part of assessing the theories' usefulness.
- 345 **THERAPY, ARTS AND THE COMMUNITY (5)**
Prereq: courses in human development or personality theory. Therapies which use music, dance and the other arts in a variety of settings. The nature of social relations in therapy for various cultures. The role of professional and lay healers.

Fairhaven College

- 346 **DEPRESSION AND EATING DISORDERS IN WOMEN (4)**
Prereq: psychology course. Major theories regarding women's development and greater vulnerability to depression. Examination of clinical and cultural explanations for eating disorders.
- 347 **PSYCHOLOGY OF WOMEN (4)**
Prereq: previous courses in psychology or women studies. Major theories of psychology of women.
- 348 **MEN AND IDENTITY (3)**
Prereq: courses in human development, women studies or body awareness. Exploration, through the arts, of men's changing identities and roles. Study of artists, media and criticism dealing with contemporary gender roles and relationships. Sharing of creative work, with collaborative projects in theatre, dance, music and mixed media.
- 349 **THE PHILOSOPHICAL CONTEXT OF MODERN THOUGHT (4)**
Prereq: courses in philosophy, upper-division status or permission of instructor. Readings, lectures and discussions on the history of modern philosophy with emphasis on epistemology. The intention of the course is to show how contemporary attitudes are both dependent on and a reaction to major tendencies in the history of philosophy.
- 443 **MORAL REASONING: THEORIES AND THEIR APPLICATIONS (4)**
Prereq: previous courses in psychology. A look at major theories of moral development and their application to people reasoning about real moral conflict in their lives.
- 250/350/450 a-z ARTS, SELF-EXPRESSION AND CREATIVITY (1-6)**
The creative process in theory and practice; the role of art and artists in society; analyzing expressive forms within cultural context. Repeatable with various topics. Some of the offerings in this section are listed below. Additional topics will be listed in the Fairhaven College Quarterly Class Description booklet.
- 251 **ORIENTAL ART AND RELIGION (4)**
An introduction to oriental art and aspects of oriental religions that are related to art. The painting of the T'ang and Sung period of China; the "I Ching" and the "Tao Te Ching." The temple sculpture in India which drew its inspiration from the Tantric religion; the religious scripture of Tantra, Hinduism and Buddhism.
- 252 **CREATIVITY AND MODERN ART (4)**
A study of Surrealism, Expressionism and Cubism through an examination of how the major artists of this century developed their styles and content. Student painters will relate their own creative processes to the artists being studied, with attention to the relationship of the various styles to contemporary history.
- 256 **PORTRAIT DRAWING (2)**
Pencil, pen and ink wash study of the head, working from the model. Instruction and practice in layout, details, expression, likeness and viewpoint.
- 257 **MUSICAL/DRAMATIC PRODUCTION (1-5)**
Prereq: permission of instructor. Rehearse, stage and perform a musical/dramatic theatre production. Repeatable with various topics.
- 258 **OPERA STUDY (2)**
Enhanced appreciation of productions of operas in Seattle and Vancouver through lecture, discussion, critical listening and historical/cultural studies related to the operas. Repeatable to 12 credits.
- 259 **IMPROVISATIONAL THEATRE (2)**
An introduction to acting through improvisation. Individual and ensemble work with a variety of forms and themes. Includes movement, voice, character, narration and scene development. Related readings and short essays.
- 351 **INWARD JOURNEY (4)**
Prereq: courses in the humanities. A study of the literature of spiritual journey, with references to classical and modern texts. Examples of spiritual autobiography and instructional and psychological and philosophical descriptions of religious experience. Repeatable to 12 credits.
- 352 **BACKGROUNDS OF CONTEMPORARY ART (3)**
Prereq: courses in history or art history. Exploration of the current debate on post-modern art by viewing art of the past ten years and reading the critics who are attempting a definition of post-modernism. Study of significant painters of the first 50 years of this century.
- 353 **ART AND SOCIETY (4)**
Exploration of the relationship of art to its culture. Examination of the relationship of Rubens to the Council of Trent, Michelangelo to Martin Luther, the Russian Avant-Garde to the Russian Revolution, Picasso to Einstein, the sculpture of the Age of Pericles to Pythagoras, Chinese landscape painting to Zen Buddhism, David to the French Revolution.

354 SCRIPTWRITING WORKSHOP I (4)

Prereq: previous coursework or experience with creative writing, or permission of the instructor. Practice in the art and craft of writing for the dramatic media: theater, film, television and radio. Intensive writing and rewriting experience with a supportive group of other writers.

355 IMAGES: AMERICAN CULTURE IN THE VIDEO AGE (4)

Prereq: upper-division work in literature or art. An investigation of the uses of images in the popular arts (television sit-coms and cop shows, advertising, films, sporting events) in order to teach us who we are or ought to be, what we love and hate, what our future is and how we should behave.

356 DREAMS, IMAGINATION AND CREATIVITY (4)

Prereq: Fair 204 or 243 or permission of instructor. A study, through readings, discussion, experiences, of the content and interrelationships between dreams, imagination and creativity to enhance the intuitive dimension of daily life. Extending the range of imagination through practice: visualization techniques, artistic expression, journal writing.

451 SYMBOLS IN ART, CULTURE AND THE UNCONSCIOUS (4)

Prereq: courses in the humanities or social sciences. The nature of symbols and symbol systems as expressed in art, psychology and historical myth. Developing dictionaries of personal symbols through reference to dreams and personal reaction to universal symbols.

452 SHAMANISM: HEALERS, VISIONARIES AND DREAMERS (4)

Prereq: Fair 204 or Anth 201; Fair 413 or Anth 424 recommended. Cross-cultural comparison of the roles, recruitment, techniques and performances of shamans, those ceremonial practitioners who move in a state of ecstasy between various spiritual realms. The relationships between healing, magic, sorcery and alternative states of consciousness in cultural context.

454 SCRIPTWRITING WORKSHOP II (4)

Prereq: Fair 354, previous 300-level work in scriptwriting in any medium, or permission of instructor. Advanced practice in the art and craft of writing for dramatic media: theatre, film, television, radio. Emphasis on sharpening forms and styles, and on preparing scripts for production. Repeatable to 12 credits.

COOPERATIVE, INDEPENDENT AND SPECIAL STUDIES

200/300/400 INDEPENDENT STUDY (Variable)

Prereq: Fairhaven College independent study permit card required for registration. By arrangement: fall, winter and spring. To enable students to study independently under faculty sponsorship. Repeatable.

275/375/475 a-z COOPERATIVE SPECIAL INTEREST STUDIES (1-6)

Faculty or student initiated small special interest study groups formed around particular topics, themes, issues or activities. Repeatable with various topics. Topics will be listed in the Fairhaven College Quarterly Class Description booklet as they are offered.

280 PRACTICUM (Variable)

Prereq: approval by two or more Fairhaven faculty members via independent study procedures. By arrangement: fall, winter and spring. Fairhaven College independent study permit card required for registration. Learning through practical involvement outside the classroom; general exposure and experience. Repeatable.

297/397/497 a-z EXPERIMENTAL COURSES (1-15)

Courses which give flexibility to the curriculum by allowing faculty to offer unusual or timely classes. Repeatable with various topics. Topics will be listed in the Fairhaven College Quarterly Class Description booklet as they are offered.

480 INTERNSHIP (Variable)

Prereq: approval by two or more Fairhaven faculty members via independent study procedures. By arrangement: fall, winter and spring. Fairhaven College independent study permit card required for registration. Practicum in an area related to one's course of study; addresses specific roles or responsibilities. Repeatable.

499 a-z SPECIAL PROBLEMS IN INTERDISCIPLINARY STUDIES (1-15)

Prereq: upper-division status. Investigation of problems and issues through advanced interdisciplinary study. Repeatable with various topics. Topics will be listed in the Fairhaven College Quarterly Class Description booklet as they are offered.

COLLEGE OF FINE AND PERFORMING ARTS

Robert Sylvester, Dean

The College of Fine and Performing Arts provides for an educational environment enhancing the creation, development, performance and teaching of the fine and performing arts. The College has a strong physical presence on campus through its multi-building facilities which are found adjacent to the two major plazas of the campus. The Concert Hall, a major theatre, two experimental theatre performance spaces, an intimate theatre, rehearsal spaces, classrooms, art studios and the Western Gallery are housed in these facilities. The arts are additionally represented throughout the campus by site specific sculpture of international importance which comprise the Outdoor Sculpture Collection.

Within this environment the College provides for its academic majors while also offering a full spectrum of arts experiences and courses to the general student body.

The College enables the student to grow in a specific discipline, while concurrently encouraging cross-disciplinary experiences. A commitment to a career in an arts discipline warrants and demands exploration in all the arts. The departments of the College provide the necessary flexibility to develop the specific talents and interests of each student. In addition to the traditional course of study, the College offers student/faculty designed majors to allow for cross-disciplinary study. Within each department an appropriate balance of historical, analytical, practical and pedagogical courses combine to provide an effective curriculum.

The nature of instruction within the College provides for a nurturing atmosphere with the faculty acting as men-

tors to their students. This approach is consistent with the unique goals and dreams that each student brings to the College. The faculty of the College are dedicated educators, scholars and artists who strongly believe in the primary role the arts play in our civilization.

Academic Programs Leading to Undergraduate and Graduate Degrees

Art	BA, BA/Ed, BFA, M/Ed
Art History	BA
Music	BA, B/Mus, M/Mus, BA/Ed
Theatre	BA, BA/Ed

Admission

A student is admitted to the College of Fine and Performing Arts when he or she has been admitted to Western Washington University and has officially declared and been accepted as a major in any one of the three departments of the College. Advisement is carried on through the department and through the office of the Dean of the College of Fine and Performing Arts.

Requirements for Bachelor's Degree

Besides the general requirements for graduation from the University, explained elsewhere in this catalog, the College of Fine and Performing Arts has the following specific requirements:

- The Bachelor of Music degree requires at least 192 quarter hours of credit.
- The Bachelor of Fine Arts degree is the professional undergradu-

ate art degree requiring study beyond the normal four years.

Majors/Minors

In addition to the General University Requirements and other common degree requirements, a candidate for a bachelor's degree must complete a major from one of the departments within the College of Fine and Performing Arts. A minor is optional.

Student/Faculty-Designed Major

The Student/Faculty-designed major is a major for a bachelor's degree granted by the College of Fine and Performing Arts. Each major is

approved by the Curriculum Committee of the College of Fine and Performing Arts. Approval should come after 45 — and before 90 — credits are completed.

Directions and contract forms will be issued to applicants by the Dean's office only after the Dean has granted preliminary approval to the applicant's concept for his or her student/faculty-designed major.

Department Chairmen

Gene Vike Art
Bruce Pullan Music
Dr. Douglas VanderYacht . . . Theatre Arts



Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this

catalog. For an exact scheduling of courses at Western, students should consult the annual *Timetable of Classes*, the *Summer Bulletin* and the *University Extended Programs' bulletins*.



Art

Western is unique among universities for the quality of its commitment to art in the living environment. The concept features Western Gallery, a world class Outdoor Sculpture Collection, permanent collections which are distributed throughout the campus and two student-managed galleries. Western is an excellent place to study art whether one is interested in a professional career or a quality liberal arts education.

The Department of Art offers a number of degree programs with major and minor concentrations in art history, art education, graphic design and illustration, painting, drawing, printmaking, sculpture, ceramics and fibers. These concentrations are basic and central to the various purposes of art. They are potentially discrete disciplines in themselves and are typically studied as such, but they are also media and process alternatives that may be brought together in various ways.

CONCEPT OF INSTRUCTION

The broad instructional concept is to integrate the components of art history, criticism, studio courses, University courses, gallery exhibition programs and permanent collections into patterns of day-to-day experience.

It is important that the student understand the history, traditions and conventions of art and art criticism, for herein lies the intelligible language of art and the heritage of humankind. The student learns to interpret, analyze and make intelligent judgments about art as well as learn the skills and concepts of the studio. It is important to experience contemporary art and the work of the avant garde as well as learn the traditional. A grasp of the dynamic nature of a culture and the continuing extension of its language is a fundamental objective.

This integrated pattern of experience does not come about by a long series of required courses but is achieved through coordinated scheduling, cooperation of faculty and student interest and commitment. Through a contract system students may, in conjunction with faculty of the Department of Art, develop majors to meet their particular backgrounds, needs and interests. Through arrangement with instructors, innovative programs may be planned. Programs may also be developed involving art and other disciplines. While there are certain required courses in each of the majors, the Department of Art has attempted to give the greatest possible degree of flexibility in its programs congruent with student involvement and concerted faculty advisement. Students should seek advisement from faculty members in the department regularly.

WESTERN GALLERY AND OUTDOOR SCULPTURE COLLECTION

Western Washington University is committed to the concept of art in the living environment. The widely known Outdoor Sculpture Collection includes works by international, national and regional artists, such as Alice Aycock, Mark di Suvero, Nancy Holt, Robert Morris, Isamu Noguchi, Beverly Pepper and Richard Serra. The Western Gallery is a central exhibition space and educational center between the northern and southern parts of campus where these major sculptural works are sited.

The primary purpose of the Western Gallery is to provide diverse experiences in the visual arts for its constituencies, encompassing the University community and region while providing a point of reference to the

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national and international art scene. Through historical, contemporary and experimental art exhibitions, through the outdoor collection of contemporary sculpture, through the publications and through interpretative interdisciplinary programs, the Western Gallery is committed to creating an environment for learning. The Gallery acts as a center for discussion and exchange of ideas on critical issues in contemporary art. The Western Gallery recognizes its role in expanding its audience's awareness of the visual arts as central to the dynamic and pluralistic nature of our society. Individuals interested in supervised work in the gallery are encouraged to volunteer their services.

ART FACULTY

- GENE E. VIKE (1962) Chair.
Professor. BA in Ed. BA, Western Washington State College; MS, Pratt Institute.
- MADGE GLEESON (1983) Associate Professor.
BA, MAT, Brown University; MFA, Washington State University.
- LAWRENCE HANSON (1963) Professor. BA, MFA, University of Minnesota.
- CAROL JANSON (1989) Associate Professor.
BA, MA, PhD, University of Minnesota.
- ROBERT A. JENSEN (1968) Associate Professor.
BFA, University of Washington; MFA, Washington State University.
- THOMAS A. JOHNSTON (1967) Professor. AA, San Diego City College; AB, San Diego State College; MFA, University of California, Santa Barbara.
- DAVID F. MARSH (1957) Professor. BA, Central Washington State College; MS, University of Oregon.
- PATRICK F. McCORMICK (1969) Professor.
BFA, BA, University of Washington; MFA, Cranbrook Academy of Art.
- MARY A. McINTYRE (1968) Professor. AB, MFA, Indiana University.
- THOMAS SCHLOTTERBACK (1965) Professor.
BFA, MFA, University of Kansas; PhD, The State University of Iowa.
- LINDA E. SMEINS (1981) Associate Professor.
BFA, University of Denver; MA, California State University, Long Beach; PhD, University of British Columbia.
- DAVID E. TEMPLETON (1969) Professor. BFA, MA, University of Illinois; PhD, University of Minnesota.
- ROBERT A. URSO (1969) Professor. BA, MA, University of Notre Dame, Ind.

Gallery Director:

Sarah Clark-Langager (1988) BA, Randolph-Macon Woman's College; MA, University of Washington; PhD, Graduate Center, City University of New York.

Adjunct Faculty:

Sarah Clark-Langager (1988) BA, Randolph-Macon Woman's College; MA, University of Washington; PhD, Graduate Center, City University of New York.

John Olbrantz, Curator, Whatcom Museum of History and Art.

George Thomas, Director, Whatcom Museum of History and Art.

FIRST-YEAR STUDENTS

Freshmen may elect courses of their choice at the 100- and 200-level which becomes the basis for subsequent study. Freshmen should seek advisement from the department chair during the first quarter at Western concerning the pre-registration process. All art majors should notice the art history core requirements and prerequisites for intermediate and advanced courses and develop appropriate sequencing in their academic plan of study.

Transfer students should seek advisement from the department chair concerning transfer of credit and orientation to department procedures during their first quarter of study.

DEPARTMENTAL PRE-REGISTRATION

Art majors are encouraged to develop a plan of study for the academic year. Thoughtful planning results in greater continuity and appropriate sequencing of educational experience. Early each quarter declared art majors submit a request for courses to be taken the following quarter. Students are placed in classes prior to the University pre-registration process. This ensures art majors access to art courses and appropriate progress through academic programs. Priority for placement is given on a most urgent need basis.

BACHELOR OF ARTS**Studio Major** 80-85 credits

- Art 101 or equivalent
- Art 120 or 130
- Art History 201, 301, 401
- Art History 220, 230, 240

Satisfactory completion of the studio major will be determined by contractual agreement between the student and a faculty committee. Individual advisement concerning this contract may begin whenever the student requests it. The contract should be written before the student has completed 24 credits in art. Concentrations may be developed in drawing, printmaking, painting, sculpture, ceramics, fibers, graphic design/illustration, or in a combination of these areas as determined by the student's contractual agreement. Courses outside the Department of Art may be applied where appropriate. Revisions and amendments will be considered and may be made by the student and the faculty committee upon request.

Upon completion of the contract, studio majors will submit 10-15 slides of their work as verification of competency.

Admission to 400-level graphic design/illustration classes may require a portfolio and permission of instructors.

Studio Minor 30-35 credits

- Art 101 or equivalent
- Art 120 or 130
- Art History 240
- Electives under advisement

Art History Major 70 credits

- Art History 201, 301, 401
- Art History 220, 230, 240, 270, 340, 440, 490
- Three areas from:
 - Art History 310, 410
 - Art History 315, 316, 317
 - Art History 320, 420
 - Art History 330, 428

- Art History 428, 429, 431
- Art History 429, 431, 432
- Art History 360, 460
- Art History 370, 470, 471

- 12 elective credits in art history
- 12 credits in studio courses
- Supporting courses; 10 credits in appropriate courses outside the area of art history selected under departmental advisement
- Reading knowledge of French or German

Art History Minor 30-35 credits

- Art History 220, 230, 240, 270
- Elective credits must include two courses selected under advisement from each of two area requirements; one course from any single area may be a directed studies in that area.

BACHELOR OF ARTS IN EDUCATION

Programs in art education lead to becoming either an elementary classroom teacher or an art specialist who teaches art only. Elementary classroom teachers, who teach all subjects, must specialize in one area. Those who want to do so in art will take the 50-credit program in addition to those courses specified in the School of Education elementary section of this catalog. Those who want to teach art only at any grade level take the 70-credit program as well as the requirements presented in the School of Education K-12 section.

For possible changes in program requirements, consult the current *Timetable of Classes* and College of Education, Advisement Office.

The content of the major will be determined by contractual agreement between the student and a faculty committee. Upon completion of not less than 12 credits of art and not more than 18 credits of art a student must write a contract with the faculty committee for completion of the major. Transfer students with

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more than 18 credits of art should do this prior to completion of their second quarter at the University.

Major — K-12 Art

Specialist 70 credits

- Art 101 or 201 or 202
- Art 120, 210, 220, 230, 240, 260, 270, 373, Tech 260
- Advanced Studio (16 credits)
- Art History 201, 220, 230, 240, 270
- Art 280, 381, 382

Major — Elementary

Education 50 credits

- Art 101 or equivalent, 120, 220, and 230
- Art History 201, 220, 230 and 240
- Art 280, 381, 382
- Art 240, 260 and Tech 260
- Advanced Studio (8 credits)

Supporting Teaching

Endorsement 30 credits

- Art 101 or equivalent
- Art 120 and 230
- Art 280, 381, 382
- Art History 240
- Electives under advisement

BACHELOR OF FINE ARTS

Studio Major 125 credits

The Bachelor of Fine Arts degree is the professional undergraduate art degree. It is an expanded undergraduate degree that requires each student to undertake a program of more than 180 undergraduate credits. Students are advised that a Bachelor of Arts studio major of normal length is available. The Bachelor of Fine Arts degree requires each student to complete the following basic program:

- A 60-credit primary concentration in one specific studio area. The areas are: drawing, painting,

printmaking, sculpture, graphic design/illustration, ceramics, fibers and metals. Certain areas may be combined to create an area of concentration on consultation with faculty

- A 24-credit secondary concentration in a studio area other than that covered in primary concentration. Certain areas may be combined, including approved outside electives, to create an area of concentration on consultation with faculty
- A 30-35 credit Art History minor
- Passage to BFA candidacy after completion of 50 credits of art
- Passage to BFA status upon completion of contract before granting of the degree

Each student BFA program is arranged through the Department of Art's contract system. That contract should be established between the student and the primary and secondary area advisers. After the completion of 50 credits, each student should have made arrangements through the major professor to submit work to the area faculty in consideration for admission to BFA candidacy. Each student's works are considered by his/her committee separately and judged in relationship to established esthetic criteria in a manner designated by the department. At the completion of all credit requirements each student must submit work for BFA degree consideration. This will be a public exhibition or presentation in an appropriate professional milieu. Transfer students with more than 18 credits of previous art work should seek advisement before entering the BFA program. All incoming students contemplating the BFA degree are urged to seek departmental advisement during the first quarter at Western.

INTERNSHIP

The Department of Art offers a field internship program for qualified students concentrating in graphic

design/illustration, or printmaking. Interns receive instruction and practical experience under the supervision of professionals in the field.

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an art major who wishes to graduate "with honors" must complete an Honors Senior Project in art.

GRADUATE STUDY

For a concentration leading to the Master of Education degree, see the Graduate School section of this catalog.

COURSES IN ART

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

(Courses in art history are listed after the listings in art.)

NOTE: The Department of Art may request samples of work produced in a studio course for exhibition purposes.

- 101 DRAWING (3)
Fundamental principles and techniques of drawing in a variety of media.
- 120 DESIGN AND COLOR (3)
Introductory level problems involving the elements and principles of two-dimensional design.
- 130 THREE-DIMENSIONAL DESIGN (3)
Introductory level problems involving three-dimensional form.
- 201 DRAWING CONCEPTS & SYSTEMS (3)
Prereq: Art 101 or equivalent. A studio course committed to the study of various drawing concepts and systems, beyond the introductory level. Assigned projects emphasize more in-depth use of media and sophistication of concept.
- 202 LIFE DRAWING I (3)
Prereq: Art 101 or equivalent. Drawing from the live model. Individual and group critiques.
- 210 PRINTMAKING (3)
Prereq: Art 101 or equivalent. A lecture/lab course covering history, methods and practice of printmaking concepts. Introduction to the relief, intaglio (etching) and planographic (lithography) printmaking processes.
- 220 PAINTING (3)
Prereq: Art 101 or equivalent. Introduction to contemporary painting.
- 230 SCULPTURE I (3)
Prereq: Art 101 or equivalent. Beginning problems in three-dimensional form and expression employing a variety of media. Introduction to contemporary concepts in sculpture.
- 240 CERAMICS (3)
Prereq: Art 101 or equivalent. Introduction to ceramics. Pottery and sculptural forms are handbuilt using coil, slab, and molded techniques. Introduction to glaze formulation, kiln loading, and firing.
- 250 METALS I (3)
Prereq: Art 130 or permission of instructor. Introduction to fabrication techniques in metals and a variety of other materials. May be applied toward a sculptural, mixed media and/or craft approach in creative expression.
- 260 FIBERS/FABRICS I (3)
Prereq: Art 101 or equivalent. An introduction to the media of fibers and fabrics. Structuring of fiber forms and application of paint/dye/thread to fabric surfaces.
- 270 GRAPHIC DESIGN I (3)
Prereq: Art 101 or equivalent. Anatomy of letter forms, alphabets, and calligraphy. Introduction to layout and design.
- 280 INTRODUCTION TO ART EDUCATION (2)
Prereq: 9 credits in art. Examination of the profession of art education, teaching skills, teaching as influencing student behavior in art, curriculum content and materials.
- 301 DRAWING WORKSHOP (5)
Prereq: Art 201 or 202. A studio course committed to the pursuit of drawing as a major creative mode of expression. Emphasis is placed on students becoming self-directed as to assignments. Weekly group criticisms; field trips to museums and galleries. Repeatable to 15 credits.
- 302 LIFE DRAWING II (3)
Prereq: Art 202 or equivalent. Intermediate level drawing problems from the live model. Some emphasis given to anatomy. Repeatable to 9 credits.
- 303 HUMAN FIGURE STUDY (5)
Prereq: Art 101, 201, 202, 220 or 230. Study of the human figure from an anatomical standpoint. Includes drawing, painting and sculpting. The student will complete a portfolio including in-class work and other assignments in sketching and anatomy studies.

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- 311 PRINTMAKING — LITHOGRAPHY (3)**
Prereq: Art 201, 210. Planographic processes, emphasis on stone lithography.
- 312 PRINTMAKING — INTAGLIO (3)**
Prereq: Art 201, 210. Intaglio processes: etching, engraving, drypoint, aquatint.
- 313a,b PRINTMAKING - COLOR (3,5)**
Prereq: Art 311 or 312. Workshop in color problems for etching or lithography. Repeatable to 15 credits.
- 320 PRINCIPLES OF COLOR (3)**
Prereq: Art 120. Advanced theory and principles of color as applied in painting or design. Studio problems in a variety of media.
- 321a,b PAINTING WORKSHOP (3,5)**
Prereq: Art 220, Art History 240 or concurrent enrollment. Intermediate problems in painting. Development of individual direction in form and expression. Repeatable to 15 credits.
- 325a,b WATERCOLOR PAINTING (3,5)**
Prereq: Art 220. Beginning problems with various water soluble media. Repeatable to 15 credits.
- 328a,b LIFE PAINTING (3,5)**
Prereq: Art 202 and 220. Painting from the nude or draped model. Repeatable to 15 credits.
- 331a,b SCULPTURE WORKSHOP (3,5)**
Prereq: Art 230. Problems in three-dimensional form and expression employing a variety of media and materials. Students will set their own problems in consultation with the instructor. Repeatable to 15 credits.
- 341a,b CERAMICS II (3,5)**
Prereq: Art 240. Introduction to the potter's wheel as a tool; handbuilding, glaze formulation and kiln firing. Emphasis on functional ware forms. Weekly seminars. Repeatable to 15 credits.
- 342a,b CERAMICS WORKSHOP (3,5)**
Prereq: Art 341. Intermediate problems in clay as a medium. Development of individual directions in pottery and/or ceramic sculpture. Weekly seminars. Repeatable to 15 credits.
- 343 SUMMER INTENSIVE CERAMICS (5)**
How, why, when and what to do with clay. Basic manipulation of clay; glazing and kiln firing. Attention to workable classroom problems, critiquing, safety, historical background and slide presentations. Covers a variety of hand-building techniques, how to use the potter's wheel, glazing, casting, kiln loading and firing. A variety of clays and firing techniques are used. Offered summers only.
- 350 METALS II (3)**
Prereq: Art 250 or permission of instructor. Problems in form and expression with a continued emphasis on materials and processes. Additional emphasis on accessing light industrial fabrication facilities via field trips, and studio visitations. Repeatable to 15 credits.
- 361 FABRICS (5)**
Prereq: Art 120 and 260. Fabrics as a creative mode of expression. Use of silk-screening techniques and dyeing processes. Consideration of repeat patterning, color and space. Repeatable to 15 credits.
- 367 FIBERS (5)**
Prereq: Art 120 and 260. Creation of fiber structures as a major medium of expression. Consideration of form, color and space in the structuring of loom and non-loom work. Repeatable to 15 credits.
- 371 GRAPHIC DESIGN II (5)**
Prereq: Art 270. A lecture studio class introducing the design of logos, posters, brochures and ads.
- 373 INTRODUCTION TO COMPUTER GRAPHICS (3)**
Prereq: Art 101 or equivalent. Computers and graphic software for artists and designers.
- 376 CARTOONING (3)**
Prereq: Art 101 or equivalent. Basic course covering character development, movement and panel composition. Repeatable to 12 credits.
- 378 BLACK AND WHITE ILLUSTRATION (3)**
Prereq: Art 202. Concepts and techniques of black and white illustration; idea development, problem solving and printing considerations. Repeatable to 9 credits.
- 379 COLOR ILLUSTRATION (3)**
Prereq: Art 378. Concepts and techniques of color illustration. Media include watercolor, markers, colored pencils and shading film. Repeatable to 9 credits.
- 380 ART EDUCATING THE CHILD (3)**
Prereq: EdAF 310 or equivalent. Not for art majors. Strategies and techniques in production of art and critical inquiry by elementary school children.
- 381 THEORIES OF ART EDUCATION (3)**
Prereq: Art 280. The philosophy, psychology, and procedures for art in the elementary and secondary schools.

- 382 TEACHING STRATEGIES AND RESOURCES (3)**
Prereq: Art 381. Examination of the field from student teaching to the job market. Development of plans for lessons, programs and learning resource materials. Study of techniques for art production and critical inquiry.
- 401 ADVANCED DRAWING WORKSHOP (5)**
Prereq: Art 301. Class is for the pursuit of individual creativity in drawing media. Repeatable to 15 credits.
- 402a,b ADVANCED LIFE DRAWING (3,5)**
Prereq: 9 credits of Art 302. Continuation of individually established concerns in the area of life drawing. Repeatable to 15 credits.
- 411a,b ADVANCED PRINTMAKING WORKSHOP (3,5)**
Prereq: Art 313. Contemporary problems in printmaking processes. Repeatable to 15 credits.
- 421a,b PAINTING WORKSHOP II (3,5)**
Prereq: Art 101 or equivalent; Art 301, 321, and Art History 240. Continuation of individually motivated search and research into form and expression with an emphasis on current issues within the field of painting as related to the making of art. Repeatable to 15 credits.
- 422 ADVANCED STUDIO WORKSHOP/ SEMINAR (2-5)**
Prereq: 15 credits in Art History; 30 credits in any studio concentration. Individual direction in studio art. Emphasis given to concept development and meaning. Studio/seminar format. Repeatable to 15 credits.
- 425a,b ADVANCED WATERCOLOR PAINTING (3,5)**
Prereq: Art 325. Painting workshop using aqueous media. Repeatable to 15 credits.
- 431a,b ADVANCED SCULPTURE WORKSHOP (3,5)**
Prereq: Art 331. Advanced problems in three-dimensional form and expression employing a variety of media and materials. Students will set their own problems in consultation with the instructor. Repeatable to 15 credits.
- 432a,b DIRECT METAL SCULPTURE (3,5)**
Prereq: Art 331. Direct metal sculpture; emphasis on the welding process. Repeatable to 15 credits.
- 433a,b BRONZE CASTING (3,5)**
Prereq: Art 331. Bronze casting by the lost wax process; modeling in clay, wax and plaster; mold-making and other techniques for making cast metal sculpture. Repeatable to 15 credits.
- 441a,b ADVANCED CERAMIC WORKSHOP (3,5)**
Prereq: Art 342. Problems in advanced ceramics; self-directed projects and weekly seminars. Repeatable to 15 credits.
- 461 ADVANCED FABRICS (5)**
Prereq: Art 361. Continuation of individual problems in fabric-related areas employing a variety of materials. Repeatable to 15 credits.
- 467 ADVANCED FIBERS (5)**
Prereq: Art 367. Continuation of individual problems in woven/constructed fiber-related areas employing a variety of materials. Repeatable to 15 credits.
- 470 TYPOGRAPHY (5)**
Prereq: Art 371. Emphasis on letter forms as design and illustrative elements. Repeatable to 15 credits.
- 471 ADVANCED GRAPHIC DESIGN (5)**
Prereq: Art 470. Advanced work in corporate identity. Repeatable to 15 credits.
- 472 ADVERTISING DESIGN (5)**
Prereq: Art 471. The theory and design of advertising media. Developing the concept, preparing the roughs and preparation of comprehensives. Repeatable to 10 credits.
- 473 ADVANCED COMPUTER GRAPHICS (2)**
Prereq: Art 373. Current topics in computer graphics. Advanced techniques and software. Repeatable to 9 credits.
- 474 DESKTOP PUBLISHING (3)**
Prereq: Art 371 and 373. Publication design including editorial, newsletter and product catalogs, with emphasis on using the computer as a design tool.
- 475 ADVANCED ILLUSTRATION (5)**
Prereq: Art 378, 379. Advanced problems, concepts and techniques of black and white and color illustrations. Development of personal style and professional portfolio. Repeatable to 15 credits.
- 476 GRAPHIC DESIGN PORTFOLIO (3)**
Prereq: senior status, permission of instructor. For advanced students to prepare a professional portfolio presentation.

Art

- 477 **FIELD INTERNSHIP IN GRAPHIC DESIGN (3-15)**
Prereq: senior status, art major, permission of instructor. Enrollment by portfolio review. Supervised field work in appropriate professional situations.
- 482 **ART EDUCATION WORKSHOP (1-5)**
Prereq: teaching experience. Explorations in art media and their adaptation to use in the school. Repeatable with various topics.
- 494 **BFA WORKSHOP (5)**
Prereq: admittance to BFA Program and permission of instructor. Individual problems specific to the student's major discipline. Repeatable to 20 credits

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 580 **CURRENT CHALLENGES IN ART EDUCATION (2-4)**
Prereq: teaching experience and 27 credits in art. Special problems in art education as listed in the *Timetable of Classes*. Repeatable to 12 credits
- 582 **CURRICULUM PLANNING (4)**
Prereq: teaching experience and 27 credits in art. Planning, development, implementation and evaluation of art as related to the total curriculum.
- 590a-g **GRADUATE STUDIO (5 ea)**
Prereq: graduate status with BA or BFA in Art and permission of instructor. Repeatable to 20 credits.
590a Drawing/Printmaking
590b Painting
590c Sculpture
590d Ceramics
590e Jewelry
590f Fiber/Fabric
590g Graphic Design
- 690a **THESIS (1-6)**
Prereq: advancement to candidacy.
- 690b **FIELD PROJECT (1-6)**
Prereq: advancement to candidacy.

COURSES IN ART HISTORY

Courses numbered X37; X97; 300; 400; 417; 445 are described on pages 38-39 of this catalog.

- 190 **INTRODUCTION TO VISUAL DIALOGUE (3)**
Introduction to the processes, materials, vocabulary and expressive means used in art. Concepts of content, significance and cultural interrelationships of art

- 201 **THEORY AND CRITICISM SURVEY (3)**
Survey of the theories of art from the earliest times to the present from world cultures. Historical survey of the major art critics and their writings.
- 220 **SURVEY OF WESTERN ART HISTORY I (3)**
Ancient and medieval art.
- 230 **SURVEY OF ART WESTERN HISTORY II (3)**
Renaissance art, 13th-18th centuries.
- 240 **SURVEY OF WESTERN ART HISTORY III (3)**
Modern art in 19th, 20th centuries.
- 270 **SURVEY OF ASIAN ART, INDIA, CHINA, JAPAN (3)**
A survey of Far Eastern Art from 4000 B.C. to 1912 A.D. A review of art from specific periods and dynasties from India, China and Japan.
- 301 **ART AND CRITICISM SINCE 1945 (3)**
A survey of recent ideas in the visual arts. Incorporates a history of art since 1945 but is not limited to historical analysis. Study of major artists and critics of this period.
- 305 **GALLERY WORKSHOP (1-3)**
Prereq: 6 credits of art and/or art history and permission of instructor. Special problems in gallery operations.
- 310 **PREHISTORIC AND TRIBAL ART I (3)**
Prereq: Art History 220 or 230 or 240; Anth 215 or 361 or concurrent. Art of the Paleolithic and Neolithic cultures and Western hemisphere primitive cultures.
- 315 **THE HISTORY OF ARCHITECTURE FROM 1620 TO 1800 (3)**
Prereq: Art History 240. European and American architecture, architectural theory and urban planning.
- 316 **THE HISTORY OF ARCHITECTURE FROM 1800 TO 1895 (3)**
Prereq: Art History 240. European and American architecture, architectural theory and urban planning of the 19th century as elements in the continuum of technological and cultural developments of the early modern age.
- 317 **THE HISTORY OF ARCHITECTURE FROM 1895 TO PRESENT (3)**
Prereq: Art History 240. European and American architecture, architectural theory and urban planning of the 20th century. Emphasis on solutions to environmental and social problems in public and domestic architecture.

- 320 **ANCIENT ART I (3)**
Prereq: Art History 220 and 230. Art of Ancient Egypt, Mesopotamia, Crete, Mycenae and peripheral areas.
- 330 **MEDIEVAL ART (3)**
Prereq: Art History 420 or 220 or 230 and permission of instructor. Western art from the fall of the Roman Empire to the beginning of the Renaissance
- 340 **MODERN ART HISTORY I (3)**
Prereq: Art History 240. The art of the 19th century Western world.
- 360 **AMERICAN ART TO 1913 (3)**
Prereq: Art History 220 or 230 or 240 or 340. Art in the United States from the Colonial period to the Spanish American War.
- 370 **ORIENTAL ART I (3)**
The art of India and Southeast Asia from the Indus Valley civilization (c. 2500 B.C.) to the end of the 18th century.
- 375 **METHODS AND WRITING IN ART HISTORY (3)**
Prereq: Art History 220, 230 and 240. Traditional and contemporary methods in art history with practical application in student research projects. Emphasis on developing analytical and writing skills.
- 401 **SEMINAR IN ART (2)**
Prereq: Art History 301, 9 additional credits in art history, 9 credits in studio courses. Development of criteria for mature artistic judgment. Repeatable to 6 credits. Writing proficiency course.
- 410 **PREHISTORIC AND TRIBAL ART II (3)**
Prereq: Art History 220 or 230 or 240; permission of instructor; Anth 215 or 364 or Art History 310 prerequisite or concurrent. Tribal arts of Africa and the South Pacific.
- 420 **ANCIENT ART II (3)**
Prereq: Art History 320 or 220 and permission of instructor. Art of the Ancient Greek and Roman civilizations.
- 428 **15TH-CENTURY ITALIAN RENAISSANCE ART (3)**
Prereq: Art History 220 and 230. Fifteenth-century art in Italy including contemporary and modern formulations of the Renaissance, the impact of classical antiquity and cultural ideals, patronage, mechanisms and stylistic innovations.
- 429 **16TH-CENTURY ITALIAN RENAISSANCE ART (3)**
Prereq: Art History 220 and 230. Sixteenth-century art in Italy including artist's career patterns, art theory and biographies, portraiture and gender, patronage, iconographic themes and stylistic shifts.
- 431 **NORTHERN RENAISSANCE ART (3)**
Prereq: Art History 230, 220 or 428 or 429 and permission of instructor. Art of the Renaissance in Northern Europe.
- 432 **BAROQUE ART (3)**
Prereq: Art History 230, 428 or 429 or 431 and permission of instructor. Art of the West during the 16th, 17th and 18th centuries.
- 440 **MODERN ART II (3)**
Prereq: Art History 240 and 340. Twentieth-century art and theory. European emphasis to World War II.
- 460 **AMERICAN ART, 1900 TO THE PRESENT (3)**
Prereq: Art History 220, 230, 240.
- 470 **ORIENTAL ART II (3)**
The art of China and Korea from the Shang Dynasty (1523 B.C.) to the end of the 18th century.
- 471 **ORIENTAL ART III (3)**
The art of Japan from the prehistoric Archaeological Age to the end of the 18th century.
- 490 **SEMINAR IN ART HISTORY (3)**
Prereq: 12 credits in art history, or senior status, or permission of instructor. Each seminar deals with a separate and special art historical problem or project. Each student prepares research, with oral and written presentation of materials pertinent to the course. Repeatable to 15 credits.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 **GRADUATE ART THEORY AND CRITICISM (3)**
Prereq: graduate status, undergraduate art major or equivalent, art history minor or equivalent, permission of instructor. Repeatable to 15 credits.
- 590 **DIRECTED STUDIES IN ART HISTORY (1-4)**
Prereq: art major or minor status, senior or graduate status; 12 credits in art history with at least one field concentration. Independent art historical research:
a. Prehistoric and Primitive Art History
b. American Art History
c. Modern Art History
d. Art Theory Aesthetics and Art Criticism
Cumulative credit in any one area may not exceed 12 credits.

Music

At Western we believe music is doing —performing, composing, searching for new insights and sharing the joy of music with others. An education in music is the result of interaction among students and between students and faculty actively pursuing musical endeavors.

We believe in the personalization of music education and the need for ongoing advisement for all music majors. The University takes pride in the quality of its instruction and the fact that Western offers a *balanced* program in choral, instrumental, private instruction and academic music aimed toward professional competency in music education, teaching, performance, conducting, composition, music history/literature and jazz studies.

Explorations in early, traditional, contemporary, avant-garde, jazz and electronic music exist in the various course activities and degree plans with the emphasis always on dealing directly with the musical art through performance, composition and analysis.

The Department of Music offers one general and five professional undergraduate programs leading to baccalaureate degrees in music. The general program (B.A.) provides a liberal arts education with music as the major subject. The five professional undergraduate programs (B.Mus.) emphasize the development of proficiency in the major area: music education, performance, history and literature, composition, and jazz studies. The B.Mus. in music education has three areas of emphasis: K-12 general music, K-12 instrumental music, and K-12 choral music. The Bachelor of Arts in Education is offered with an elementary music major. State certification to teach is received concurrently with the granting of the degree.

A variety of large and small ensembles and music courses are open to all qualified students of the University, regardless of major. The ensembles include: University Choir, Concert Choir, Symphonic Band, Wind Ensemble, University Symphony Orchestra, Jazz Ensembles, Chamber Music (in all instruments and voice), Collegium Musicum, Opera Theatre and Vocal Jazz Ensemble. All music ensembles present public programs throughout the year, and several ensembles participate in annual tours. Music courses open to all students in the University include: The Art of Listening to Music, Fundamentals of Music, Music in the Western World, Non-Western Music, and the History of Jazz, among others.

The Department of Music provides individual advisement and program planning for all students majoring in music. This takes place officially during the registration period. The department also provides individual advisement at any time prior to entrance by appointment. Many students prefer to spend a day on campus prior to transfer, at which time they may receive advisement and visit the various departmental performance groups and classes and meet with instructors. Anyone interested in an appointment is welcome to write or phone the Department of Music, Western Washington University, Bellingham, Washington 98225. Phone (206) 676-3103.

The department is a full member of the National Association of Schools of Music.

MUSIC FACULTY

C. BRUCE PULLAN (1975) Chair.
Professor, BA, Kings College; Diploma in Ed., New College; MA, Cambridge University.

- ROGER D. BRIGGS (1989) Associate Professor. BM, Memphis State; MM, PhD, Eastman School of Music.
- TERRANCE J. GROVE (1990) Music Education Specialist. BA, Western Washington University; MM, University of Washington.
- FORD D. HILL (1975) Associate Professor. AB, Wisconsin State University; MA, Indiana University.
- KAREN IGLITZIN (1986) Associate Professor. BM, Indiana University; MM, Yale University.
- CHUCK ISRAELS (1986) Associate Professor. BA, Brandeis University.
- PETER MARSH (1990) Professor. Diploma from USN School of Music
- JACK MORRIS (1985) Lecturer. BA, Brigham Young University; MM, Indiana University.
- CARLA J. RUTSCHMAN (1975) Associate Professor. BA, University of Northern Colorado; MM, Arizona State University; PhD, University of Washington.
- EDWARD R. RUTSCHMAN (1975) Associate Professor. BM, University of Northern Colorado; MM, Arizona State University; PhD, University of Washington.
- ROBERT L. SCANDRETT (1967) Professor. BA, Seattle Pacific College; MA, PhD, University of Washington.
- ALBERT C. SHAW (1978) Professor. BME, Wheaton College; MME, Drake University; DME, Indiana University.
- MARY TEREY-SMITH (1967) Professor. BA, Liszt Academy of Music, Budapest; MA, University of Vermont; PhD, University of Rochester.
- DAVID WALLACE (1987) Associate Professor. BM, University of Michigan; MM, University of Wisconsin; DMA Eastman School of Music.
- EUGENE S. ZORO (1969) Associate Professor. BM, MM, Eastman School of Music of the University of Rochester.

Affiliate Music Faculty

Nicholas Bussard, Oboe
 Gregory Cox, Trombone
 David Feingold, Classical Guitar
 Walter Gray, Cello
 Laurie Hartz, Class Piano
 Virginia Hunter, Voice
 Erin Overton James, Flute
 Cynthia Jefferson, Horn
 Madelene Klassen, Organ
 Julia Nolan, Saxophone
 Tom Parriott, Trumpet
 William Schink, Bassoon
 Marianne Weltmann, Voice

Nancy Bussard, Professional Accompanist
 Lucille Oster, Professional Accompanist
 David Steege, Keyboard Technician

MUSIC PERFORMANCE

All students in Bachelor of Music degree programs must be members of a major performing ensemble each

quarter of residence except those quarters in which music education majors are enrolled in student teaching. Those ensembles designated as major performing ensembles are the Symphonic Band, Wind Ensemble, University Choir, Concert Choir and Symphony Orchestra. The participation requirement must be met through the student's major instrument or voice. Pianists, organists and guitarists may elect to participate in any of the major performing ensembles for which they are qualified. Pianists, organists and guitarists majoring in music performance may, under advisement, substitute up to 12 additional credits in chamber music for this requirement. Jazz studies majors who play piano, guitar or electric bass may substitute up to 12 credits in jazz ensembles for the major performing group requirement. Jazz studies majors who play instruments other than those listed above may substitute up to 12 credits in jazz ensembles "under strict advisement." Performance ensembles may be repeated for credit.

OFFICIAL ATTIRE

The official attire for all public performances of the University Orchestra, Wind Ensemble, Symphonic Band and Concert Choir is as follows: Women — long black dress; Men — black tuxedo. The Department of Music requires the student to have this attire available at the beginning of the academic year.

APPLIED PERFORMANCE PROFICIENCY

All entering music students will be expected to demonstrate their performance proficiency before a faculty committee to determine their admission as music majors. This qualifying audition will be held on announced dates prior to the start of fall, winter and spring quarter classes and on any day school is in session by prior appointment.

Freshman and transfer students with marginal qualifications may be placed on probation at the beginning of their first quarter of study and will be re-examined at the end of the quarter. A student who fails to have probationary status removed at the end of two consecutive quarters may be removed from music major status, continued applied instruction and admissibility to restricted classes. Music minors wishing to include applied instruction as part of the elective credits for the minor must perform an audition in accordance with the listed levels of proficiency. All applied private music study is included in the student's regular fees. Applied music may be repeated for credit.

Minimum applied performance proficiency levels required for entrance to private applied music study are as follows: This list of repertoire is intended to characterize acceptable standards for full admittance and entrance to music major status. However, at the entrance audition, the entering music student may play or sing musical selections other than those listed below.

ORGAN — Ability to play, at the piano, literature of the difficulty of Bach, "Two-Part Inventions," "Short Preludes;" Beethoven, "Sonatina;" a movement from a "Sonata" of Haydn or Mozart. Two pieces should be prepared. Memorization is not required. Ability to sight-read hymns at the piano.

PIANO — Classic, Romantic and contemporary literature of the difficulty of Bach, "Short Preludes" and "Inventions;" Clementi, Haydn, Mozart and Beethoven "Sonatinas"; Bartok, "Mikrokosmos," Books 3 and 4. It is expected that three pieces be prepared from different style periods and that at least one be played from memory. Sight-reading will also be a part of the audition.

VIOLIN — Mazas, "Special Studies," opus 36, Book 1, edited by Hermann or Saenger; Handel, Corelli, Vivaldi

or other sonatas. Solo pieces through five positions; scales two octaves (major and melodic minor).

VIOLA — Handel, Purcell or other sonatas; Telemann Concerto in G major or Vivaldi Concerto in E minor. Scales two octaves (major and melodic minor).

VIOLONCELLO — Completion of the Lee, "Method" Book 1 or Dotzauer "Studies" Book 1 or Grutzmacher "Studies" Book 1; short pieces or a sonata of the difficulty of Vivaldi or Marcello. Scales through the fourth position.

DOUBLE BASS — Simandl, "New Methods for the Double Bass," Book 1. Scales through half, first and second positions.

FLUTE — Any Handel sonata (except the E minor Sonata) [select at least one sonata]. Any etude from Anderson Etude Method, opus 41 [select any two of the 18 studies]. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

OBOE — Handel Sonata No. 1; Bach "Gavotte in D Major"; Grieg "Solvejg's Song" [select any two]. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

CLARINET — Any two etudes from "Thirty-two Etudes for Clarinet" by C. Rose, or from "Preliminary Studies for the Accomplished Clarinetist," Vol. I, by R. Jettel. One solo work comparable in difficulty to the Weber "Concertino" or Hindemith "Sonata." Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

BASSOON — Three or four selected studies from the Weissenborn Complete Method. Any two studies from the Weissenborn Advanced studies. Mozart "Concerto in Bb" (second and third movements), or Galliard "Sonatas I and VI," or Phillips "Concert-piece" or Telemann "Sonata in F Minor," or J. C. Bach "Concerto in Bb." Major and minor scales and

arpeggios through four sharps and four flats (two octaves when possible).

SAXOPHONE — Two or three studies from "Twenty-five Exercises for Saxophone" by Klose. Solos selected from "Cantilena" by Benson, "Chant Corse" by Tomasi, or "Concerto" by Larsen. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

FRENCH HORN — Two or three etudes selected from "Method for French Horn" by Pottag, edited by Hovey. Mozart, "Concerto No. 3" or Saint-Saens "Romance." Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TRUMPET — One or two etudes from "34 Studies" by Brandt, edited by Nagel. Haydn "Concerto" (first and second movements), or Vidal "Concertino" or Thome "Fantasy in Eb" or Corelli "Sonata VIII," edited by Fitzgerald. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TROMBONE (TENOR AND BASS TROMBONE) AND EUPHONIUM — Two or three studies from "Melodious Etudes" by Rochut, Book I (bass trombone should play one octave lower where feasible). Studies one through ten of the Blashevich Clef Studies. Five selected studies from the Arban Method, Book I. Major and minor scales and arpeggios through four sharps and four flats (two octaves when possible).

TUBA — Any two of the first four solos in "Solos for the Tuba Player" by Wekselblatt. First ten studies from the "Studies for BBb Tuba" by Tyrell. Major and minor scales through four sharps and four flats (two octaves when possible).

PERCUSSION — On entering, percussion students should have prior training in at least one of the following five categories, and some experience

and ability on the remainder: timpani; snare drum; mallet instruments; bass drum; cymbals, and miscellaneous percussion and drum set. *For Timpani:* tuning, stick technique, pedaling, intonation, tone production, roll and attack. *For Snare Drum:* all rudiments, rhythm studies, stick technique (both matched and traditional grip), control and bounce. *For Mallet Instruments:* tone production, mallet technique, scales and arpeggi in all major and minor keys, and experience on xylophone, marimba, vibraphone, chimes, etc. *For Bass Drum, Cymbals, and Miscellaneous Percussion:* experience and technique on all. *For Drum Set:* basic rhythms in all styles and traditional and Latin American patterns.

VOICE — Two songs of contrasting styles demonstrating potential beauty and body of tone, innate sensitivity to pitch and rhythm.

CLASSICAL GUITAR — One piece from the classical guitar repertoire of the applicant's choice and one study from the collection "Twenty Etudes" by Fernando Sor, edited by Andres Segovia.

JAZZ GUITAR — Two or three standard jazz compositions (such as "Tune-Up," "Here's That Rainy Day," and "Straight No Chaser") with melody, chords and improvised solo. Major, dorian and mixolydian scales in all keys. Ability to sight-read sequences of major-seventh, minor-seventh and dominant-seventh chords in all inversions. Ability to sight-read jazz melodies.

ELECTRIC BASS — Two or three standard jazz compositions (such as "Tune-Up," "Footprints" and "Freedom Jazz Dance") with melody, improvised solo and appropriate bass lines. Major, dorian and mixolydian scales in all keys. Ability to improvise a bass line in different styles (Swing, Be-bop, Latin, Funk) from a given sequence of chords. Major-seventh, minor-seventh and dominant-seventh arpeggios in all keys. Ability to sight-read jazz melodies and chord symbols.

THEORY PLACEMENT EXAMINATION — TRANSFERS

All students transferring to Western with less than two years of college theory will be assigned to the theory course that succeeds the last course taken. (Students may repeat theory courses previously taken elsewhere.) All students transferring to Western who have completed two years of college theory will write, prior to enrollment, a Theory Placement Examination. This examination may be written at Western or it may be written and examined at any college or community college (administered by professors at that college) prior to transferring to Western, upon individual request. This examination is an evaluative instrument; the results of this examination are advisory only. All credit received in theory previously at other institutions will be transferred at the level for which it was earned and may apply toward fulfillment of the requirements for the major in music or in music education.

HISTORY PLACEMENT EXAMINATION — TRANSFERS

Students with upper-division music history credit (300-level or above) must take a history placement examination to determine what history courses remain to be taken.

KEYBOARD COMPETENCY

All students in Bachelor of Music programs will successfully complete a Keyboard Competency Examination. Those students commencing their music theory studies at Western will complete this requirement as part of the two-year music theory/ear-training sequence. Students transferring to Western with one or more quarters of music theory will complete the requirement either by: (1) completing the remaining quarters of the theory sequence; or (2) taking the Keyboard Competency Examination.

The appropriate course of action will be determined by the results of the Theory/Ear-Training Placement Examination.

Students in the B.Mus. degree programs will be required to take the Keyboard Competency Examination by the end of the sophomore year or, in the case of transfer students, after three quarters of full-time study.

SCHOLARSHIPS

In addition to general University scholarships, several awards are available from off-campus music organizations through the Western Foundation. Scholarship awards to incoming music majors will be based upon quality of entrance audition. For further information, consult the Department of Music.

PROGRAM ADVISEMENT

All undergraduate music majors are assigned to the departmental undergraduate program adviser for scheduling and program approval.

BACHELOR OF MUSIC

To complete the Bachelor of Music degree requirements it may be necessary for the student to take more than the usual 180 credit hours. Students should anticipate that these programs may require more than four years.

Music Education Major

106 credits

(plus School of Education professional courses*)

Core Requirements 96 credits
(common to all music education major emphases):

- Theory/Literacy Laboratory: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Advanced Theory: Select two courses from Music 322, 324, 326, 422
- Music History: Music 342, 343, and 341 or 344

- Conducting: Music 351, 352, 353
- Music Education: Music 362, 363, 462
- Pedagogy: 12 credits of Music 264, 265, 364 selected under advisement
- Major performing ensemble each quarter in residence (minimum 22 credits)
- Applied music on major instrument or voice — minimum of 3 credits in courses numbered 311-316 or 411-416 — each quarter in residence, except when student teaching (minimum 11 credits)

K-12 General Music Emphasis
10 credits

- Music Education: Music 461
- Pedagogy: Music 164, 271
- Electives: 3 credits selected under advisement. Piano majors will take all elective credits in Music 466

K-12 Choral Music Emphasis
10 credits

- Music Education: Music 463
- Electives: 8 credits selected under advisement. Piano majors will take at least 4 credits of Music 466 as part of their electives

K-12 Instrumental Music Emphasis
10 credits

- Music Education: Music 464
- Pedagogy: Music 164, 271
- Electives: 4 credits selected under advisement. Piano majors will take all elective credit in Music 466

**Music education majors should consult the Education Admissions Office, Miller Hall 202, for information concerning the College of Education professional courses and admission to the Teacher Education program.*

Professional Majors
122 credits

The Bachelor of Music (B.Mus.) degree is the professional undergraduate degree program in music. It

is an expanded program which requires a student to undertake a course of study of 192 undergraduate credits.

Core Requirements 61-65 credits (common to all professional music major concentrations)

- Theory/Literacy Laboratory: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Advanced Theory (each concentration selects courses as follows from Music 322, 324, 326, 422): Performance — three courses; Composition — four courses; History & Literature — four courses; Jazz Studies — two courses
- Music History: Music 342, 343, and 341 or 344
- Major performing ensemble each quarter in residence (minimum 24 credits)

Performance Concentration
59 credits

- Entrance by performance audition — student must expect to achieve upper-division applied instruction by sophomore year
- Applied music on major instrument or voice (minimum 30 credits); at least three credits in courses numbered Music 411-416
- Chamber Music: minimum 8 credits selected from Music 275, 475, 478, 480, 481, 483, 484
- Music History: 3 credits beyond core requirement
- Conducting: Music 351
- Minimum of 4 credits in Music 466
- Senior Recital: Music 499
- Electives: 9 credits selected under advisement. Piano majors must take at least 6 credits in Music 467

Composition Concentration
57 credits

- Entrance by compositional accomplishment and interview — student must qualify for upper-division composition courses by junior year

Music

- Applied music on major instrument or voice (minimum 12 credits); at least three credits in courses numbered Music 311-316 or 411-416
- Chamber Music: minimum 6 credits selected from Music 275, 475, 478, 480, 481, 483, 484
- Music History: 3 credits beyond core requirement
- Conducting: Music 351, 352, 353
- Composition: minimum 21 credits from Music 231, 331, 431
- Senior Recital: Music 499
- Electives: 5 credits selected under advisement
- courses numbered Music 311-318 or 411-416
- Chamber Music: minimum 6 credits selected from Music 275, 475 (minimum 4 credits in 475)
- Jazz Ensembles: minimum 8 credits selected from Music 274, 474
- Jazz Studies: Music 202, 334, 335, 336, 434, 435, 436
- Conducting: Music 351
- Senior Recital: Music 499
- Electives: 9 credits selected under advisement

History and Literature Concentration 57 credits

- Entrance by interview and distinguished accomplishment in musicianship
- Applied music on major instrument or voice (minimum 12 credits); at least three credits in courses numbered Music 311-316 or 411-416
- Chamber Music: minimum 8 credits selected from Music 275, 475, 478, 480 (minimum 4 credits), 481, 483, 484
- Conducting: Music 351
- Notation: Music 441
- Music History: 3 credits beyond core requirement
- Advanced History: minimum 12 credits from Music 442, 443
- Thesis: Music 490
- Electives: 14 credits selected under advisement
- Students in music history and literature must pass a reading examination in French or German

Jazz Studies Concentration 61 credits

- Entrance by performance audition to include: all major, dorian and mixolydian scales; all major seventh, minor seventh, and dominant seventh arpeggios; sight reading and improvisation
- Applied music on major instrument or voice (minimum 12 credits); at least three credits in
- Theory/Literacy Laboratory: 24 credits—Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Music History: 9 credits—Music 342, 343, and 341 or 344
- Theory/Music History electives: 9 credits selected from Music 105, 205, 231, 322, 324, 326, 331, 334, 335, 336, 422, 431, 434, 435, 436, 442, 443
- Applied music on major instrument or voice: 6 credits minimum*

Jazz Studies majors who play piano, guitar or electric bass may substitute up to 12 additional credits in jazz ensembles (Music 274, 275, 474, 475) for the major performing group requirement. Jazz Studies majors who play instruments other than those listed above may substitute up to 12 additional credits in jazz ensembles "under strict advisement." Jazz Studies majors may meet the chamber music requirement in Chamber Jazz Ensemble (Music 425).

BACHELOR OF ARTS

Major — Music 60 credits

The Bachelor of Arts is the liberal arts degree program in music. The curriculum, providing 40 credits of free electives and 70 credits of General University Requirements, allows for individual preferences in intensifying studies in certain aspects of music and broadening the scope of academic pursuits.

- Major Performance Ensemble: 12 credits minimum

**Additional course credits in applied music instruction beyond the required minimum of 6 may be obtained under the advisement of the appropriate area coordinator.*

Minor — Music 30 credits

- Theory/Literacy Laboratory: 12 credits—Music 121, 122, 123, 124, 125, 126
- Music History and Literature: 6 credits—Music 104 or 105, 202 or 205
- Music electives: 9 credits selected under advisement

BACHELOR OF ARTS IN EDUCATION

Elementary Music Major

47 credits

(plus performance requirement and the School of Education professional elementary courses)

- Theory/Aural Skills: Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Music History: select two courses from Music 341, 342, 343, 344
- Musical Survey: Music 105, 205
- Pedagogy: Music 164
- Music Education: Music 362, 363, 461
- Applied music on major performing instrument or voice (jazz guitar and electric bass not applicable); minimum 6 quarters

GRADUATE STUDY

For concentrations leading to the Master of Music, see the Graduate School section of this catalog.

COURSES IN MUSIC

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

101 FUNDAMENTALS OF MUSIC (3)

Open to all students. The study of musical construction for those unfamiliar with the fundamentals of notation (pitch and rhythm), major and minor scales, intervals, triads, and keys, with particular attention to their practical application.

102, 103 INTRODUCTION TO MUSIC THEORY AND EAR TRAINING (3 ea)

Prereq: Music 101 or permission of instructor; each course prerequisite to the next. Courses designed to strengthen the prospective music major's knowledge of fundamental theoretical principles, and to introduce the basic aural/reading skills needed to begin the musicianship sequence.

104 THE ART OF LISTENING TO MUSIC (3)

Open to all students. Non-technical basis for enjoyable listening to music; performance practices relating to symphony orchestras, instrumental ensembles, opera, choral groups and solo performance.

105 MUSIC IN THE WESTERN WORLD (3)

Open to all students. An introduction to the principal genres, forms and composers of Western music within the framework of a study of the historical stylistic periods.

121, 123, 125 MUSIC LITERACY LABORATORY I (1 ea)

Prereq: music major status or approval of music theory area coordinator; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of the diatonic major and minor system. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.

122, 124, 126 THEORETICAL AND ANALYTICAL SKILLS I (3 ea)

Prereq: music major status; each course prerequisite to the next. Study of and practical experience in using the basic materials of musical construction including notation, melody, harmony, rhythm and form.

160 PREPARATORY CLASS PIANO (1)

Prereq: music major status. Designed for students with no keyboard experience. Basic reading skills and technique.

164 CLASS VOICE AND PEDAGOGY (2)

Prereq: music major status. Tone production, song repertoire interpretation and pedagogy for non-voice majors.

202 JAZZ: GENESIS AND EVOLUTION (3)

Open to all students. Personalities, styles and social/cultural influences on jazz from its beginning to the present day.

Music

- 205 SURVEY OF NON-WESTERN MUSICAL CULTURES (3)**
Open to all students. A general introduction to the musical styles of major non-Western cultures, including those of Africa, India, Asia, Indonesia and Eastern Europe. Focus will be on the role played by music in each society.
- 211-218 APPLIED INSTRUCTION (1-4)**
Prereq: music major status; minimum applied performance audition.
211 Organ
212 Piano
213 Strings
214 Winds and Percussion
215 Voice
216 Classical Guitar
217 Jazz Guitar
218 Electric Bass
- 221, 223, 225 MUSIC LITERACY LABORATORY II (1 ea)**
Prereq: Music 125; music major status; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of the chromatic major and minor system; introduction to extended tertian harmony. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.
- 222, 224, 226 THEORETICAL AND ANALYTICAL SKILLS II (3 ea)**
Prereq: Music 126; music major status; each course prerequisite to the next. Advanced study of and practical experience in using the materials of musical construction including extended, chromatic, and non-tertian harmonic structures and complex musical forms.
- 231 ELEMENTARY COMPOSITION (1-2)**
Prereq: permission of instructor. Elementary craft of melodic, harmonic, rhythmic, instrumental and contrapuntal writing in traditional modes; participation in concomitant composition seminars. Repeatable for credit.
- 233 INTRODUCTION TO ELECTRONIC MUSIC PROCESSES (1)**
Open to all students. An introductory overview of electronic processes in creating music: tape manipulation, musique concrete, the use of the synthesizer. Group instruction and studio time in the laboratory. Repeatable for credit.
- 260 REMEDIAL CLASS PIANO (1)**
Prereq: music major status; successful completion of at least four items of the Keyboard Competency Exam. Concentration on specific areas of the Keyboard Competency Exam based on individual needs. Repeatable for credit.
- 261, 262, 263 CLASS PIANO (2 ea)**
Prereq: music major status; each course prerequisite to the next. Sight-reading skills, functional application of material learned in theory class, accompanying, and score reading.
- 264a-k INSTRUMENTAL LAB FOR SECONDARY INSTRUMENTS (1-2 ea)**
Prereq: music major status. Pedagogy of and performance on secondary instruments, conducting, developing teaching strategies with goals and objectives.
264a Flute
264b Oboe
264c Clarinet
264d Bassoon
264e Saxophone
264f Horn
264g Trumpet
264h Trombone
264i Euphonium
264j Tuba
264k Percussion
- 265a-b STRING TECHNIQUES AND PEDAGOGY LAB (1-2 ea)**
Prereq: music major status. Principles and techniques of playing and teaching string instruments.
265a Violin/Viola
265b Cello/Bass
- 269 MUSIC TEACHING PRACTICUM I (2)**
Prereq: permission of instructor. Observation, assisting and/or micro-teaching experience in K-12 music classroom environments. Repeatable for credit.
- 271 UNIVERSITY CHOIR (2)**
Prereq: permission of instructor. Preparation and performance of major choral works and part-songs. Open to all students having the ability to sing mixed part-songs. Repeatable for credit.
- 272 SYMPHONIC BAND (2)**
Prereq: permission of instructor. Preparation and performance of major band works. Open to all students with band experience. Repeatable for credit.
- 274 JAZZ ENSEMBLES (2)**
Prereq: by audition. Performance and interpretation of contemporary jazz in a large ensemble situation. Repeatable for credit.
- 275 CHAMBER JAZZ ENSEMBLES (2)**
Prereq: by audition; Music 224 and 334 strongly recommended. Supervised small ensemble performance in jazz idioms stressing repertoire, improvisation, and performance of written arrangements and compositions. One public performance per quarter required. Repeatable for credit.

- 278 OPERA WORKSHOP (1-2)
Prereq: by audition. Preparation of opera scenes or a major music production to include a public performance each quarter. Repeatable for credit.
- 280 COLLEGIUM MUSICUM (2)
Prereq: by audition. Music literature studies from an analytical and performance viewpoint from early to pre-classic music, culminating in a public performance each quarter. Repeatable for credit.
- 281 APPLIED CHAMBER MUSIC (2)
Prereq: by audition; permission of chamber music coordinator. Open to piano, string, wind, brass and percussion performers. Repeatable for credit.
- 283 CHAMBER VOCAL ENSEMBLES (2)
Prereq: by audition. Repeatable for credit.
- 284 VOCAL JAZZ ENSEMBLE (2)
Prereq: by audition. Preparation and performance of vocal works by major jazz composers. Open to all University students having the ability to sing in mixed chorus. Repeatable for credit.
- 311-318 APPLIED INSTRUCTION (1-4)
Prereq: music major status; upper-division examination.
311 Organ
312 Piano
313 Strings
314 Winds and Percussion
315 Voice
316 Classical Guitar
317 Jazz Guitar
318 Electric Bass
- 321, 323, 325 MUSIC LITERACY LABORATORY III (1 ea)
Prereq: Music 225 or permission of instructor; music major status; each course prerequisite to the next. The development of aural competence in and visual familiarity with the sounds and symbols of atonal, freely tonal and highly chromatic tonal systems; completion of extended tertian harmony. Exercises and drill in prepared and sight reading, dictation, error detection, accuracy of rhythm and intonation. S/U grading.
- 322 FORM AND ANALYSIS: MUSIC TO 1900 (2)
Prereq: Music 225, 226. Formal and stylistic analysis of works from the major historical periods up to 1900.
- 324 COUNTERPOINT (2)
Prereq: Music 225, 226. Counterpoint in species and free style. Composition and analysis of pieces in two and three parts. Repeatable for credit.
- 326 ORCHESTRATION/ARRANGING (2)
Prereq: Music 225, 226. Orchestration and arranging with special reference to the needs of the instrumental conductor and composer. Repeatable for credit.
- 331 COMPOSITION (3)
Prereq: Music 226 and successful completion of upper-division competency examination in composition. Writing pieces in part forms, variation form and sonata form for solo instruments and small ensembles; choral writing. Repeatable for credit.
- 334 JAZZ IMPROVISATION I (3)
Prereq: open to all accepted jazz majors or Music 224 or permission of instructor. Study of basic chord changes, scales and patterns with improvisation based on these principles. Analysis of transcribed solos and study of jazz repertoire.
- 335 JAZZ IMPROVISATION II (3)
Prereq: Music 334. Study of altered chords, scales and patterns with improvisation based on the principles. Analysis of transcribed solos, study of jazz repertoire and ear-training.
- 336 JAZZ IMPROVISATION III (3)
Prereq: Music 335. Study of bi-tonal chords, atonality and patterns with improvisation based on these principles. Analysis of transcribed solos, study of jazz repertoire and ear-training.
- 341 HISTORY OF MUSIC TO 1600 (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers up to 1600. Individual research projects.
- 342 HISTORY OF MUSIC 1600-1750 (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers from 1600 to 1750. Individual research projects.
- 343 HISTORY OF MUSIC 1750-1900 (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers from 1750-1900. Individual research projects.
- 344 HISTORY OF MUSIC 1900 TO PRESENT (3)
Prereq: Music 225, 226; music major status. Main styles, forms, terminology and composers from 1900 to present. Individual research projects.
- 351 BASIC CONDUCTING (2)
Prereq: Music 225, 226; music major status. Basic conducting techniques, score reading and interpretive analysis.

Music

- 352 **INSTRUMENTAL CONDUCTING (3)**
 Prereq: Music 351; music major status. Instrumental techniques, score reading, interpretive analysis and rehearsal techniques.
- 353 **CHORAL CONDUCTING (3)**
 Prereq: Music 351; music major status. Choral techniques, score reading, interpretive analysis and rehearsal techniques.
- 361 **MUSIC FOR ELEMENTARY TEACHERS (3)**
 For elementary teachers, *not music majors*. The skills of singing, reading, writing, playing and hearing music: techniques and materials used in the elementary grades.
- 362 **ELEMENTARY MUSIC EDUCATION (3)**
 Prereq: Music 126; music major status. Teaching techniques, materials and organization of the elementary music program. Introduction to Orff, Kodaly and MMCP methodology. Observations.
- 363 **FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION (3)**
 Prereq: music major status. Historical, philosophical and psychological foundations of music education; learning theory, curricular structures and applications to classroom and ensemble teaching.
- 364 **INSTRUMENTAL LAB FOR SECONDARY INSTRUMENTS/LAB BAND METHOD (2)**
 Prereq: 3 credits in Music 264; music major status. Pedagogy of and performance on secondary instruments in an ensemble environment. Repeatable for credit.
- 366 **VOCAL DICTION (1 ea)**
 Prereq: music major status or permission of instructor. Must be taken concurrently with applied voice instruction. Familiarization and application of the phonetic structures of the major languages of singing and the use of the International Phonetic Alphabet as a basic tool for pronunciation.
 a. Italian
 b. German
 c. French
- 411-418 **APPLIED INSTRUCTION (1-4)**
 Prereq: music major status; upper-division examination.
 411 Organ
 412 Piano
 413 Strings
 414 Winds and Percussion
 415 Voice
 416 Classical Guitar
 417 Jazz Guitar
 418 Electric Bass
- 422 **ANALYTICAL TECHNIQUES: 20TH-CENTURY MUSIC (2)**
 Prereq: Music 225, 226. Formal and stylistic analysis of representative 20th-century works.
- 431 **COMPOSITION (3)**
 Prereq: minimum of 6 credits in Music 331. Writing pieces of broad proportions for various media. Repeatable for credit.
- 432 **ELECTRONIC MUSIC LABORATORY (2)**
 Prereq: Music 233 or permission of instructor. Instruction in the use of the ARP synthesizer, tape-recording techniques, audio generators and modifiers for use in electronic music. Equipment for teaching electronic music. Group instruction and studio time in the use of this equipment. Repeatable for credit.
- 434 **JAZZ ARRANGING I (3)**
 Prereq: Music 226 or 334. Writing and arranging for small jazz ensembles. Analysis of small jazz ensemble styles.
- 435 **JAZZ ARRANGING II (3)**
 Prereq: Music 434. Writing and arranging for a variety of instrumental combinations. Analysis of jazz ensemble styles.
- 436 **JAZZ ARRANGING III (3)**
 Prereq: Music 435. Writing and arranging for large jazz ensemble. Analysis of large jazz ensemble styles.
- 441 **NOTATION (3)**
 Prereq: Music 226, 341, 343; permission of instructor. Reading and interpreting early, contemporary or other extant systems
- 442 **SEMINAR IN MUSIC HISTORY (4)**
 Prereq: Music 342, 343; music major status. The student in consultation with the instructor will select one or more given musical developments for individual research. Ongoing results of this research will be shared with other members of the seminar. Focus of the course will vary from quarter to quarter. Repeatable for credit.
- 443 **HISTORY OF MUSICAL MEDIA (3 ea)**
 Prereq: Music 343; music major status. Development and literature of important musical media from their origin to the present.
 443a Choral Music
 443b Solo Song
 443c Opera
 443d Keyboard Music
 443e Chamber Music
 443f Symphonic Music
 443g Concerto
 443h Symphonic Music in the 20th Century

- 451 **CONDUCTING PRACTICUM (1-3)**
Prereq: Music 351; 352 or 353 or permission of instructor. Advanced conducting techniques to include direction of student ensembles under faculty supervision. Repeatable for credit.
- 455 **BIRCH BAY BAND MUSIC WORKSHOP (2)**
Offered summers only. Repeatable for credit.
- 456 **BIRCH BAY ORCHESTRA MUSIC WORKSHOP (2)**
Offered summers only. A reading workshop in materials and literature for school music orchestra teachers. Repeatable for credit
- 461 **ELEMENTARY MUSIC EDUCATION METHODS II (3)**
Prereq: Music 361 or 362. Advanced teaching techniques, activities, materials and literature for elementary music teaching. In-depth application strategies for Orff, Kodaly and MMCP methods. Observation and laboratory experience.
- 462 **SECONDARY SCHOOL MUSIC ADMINISTRATION (2)**
Prereq: Music 363. Curriculum development, organizational and administrative procedures and supervision for secondary school music teaching. Must be taken prior to student teaching.
- 463 **PROBLEMS IN SECONDARY CHORAL MUSIC EDUCATION (2)**
Prereq: Music 363. Programmatic, curricular, organizational and instructional problems unique to teaching choral music at the secondary level. Must be taken prior to student teaching.
- 464 **PROBLEMS IN SECONDARY SCHOOL INSTRUMENTAL MUSIC EDUCATION (2)**
Prereq: Music 363. Programmatic, curricular, organizational and instructional problems unique to teaching secondary school instrumental music. Must be taken prior to student teaching.
- 465 **APPLIED MUSIC PEDAGOGY (1-3)**
Prereq: upper-division level in applied instruction; music major status; permission of instructor. A study of the basic concepts involved in instrument or voice pedagogy through a survey of the most important modern teaching methods. Repeatable for credit.
- 467 **APPLIED MUSIC LITERATURE (1-3)**
Prereq: music major status; permission of instructor. A stylistic and historical survey of literature for instruments or voice. Repeatable for credit.
- 469 **MUSIC TEACHING PRACTICUM II (2)**
Prereq: permission of instructor. Observation, assisting and/or micro-teaching experience in K-12 music classroom environments. Repeatable for credit.
- 471 **CONCERT CHOIR (2)**
Prereq: by audition. Selected group experience, vocal ability, reading skill, musicianship and interest in serious choral music considered for membership. Repeatable for credit.
- 472 **WIND ENSEMBLE (2)**
Prereq: by audition. Repeatable for credit
- 473 **UNIVERSITY SYMPHONY ORCHESTRA (2)**
Prereq: by audition: open to students who qualify. Repeatable for credit
- 474 **JAZZ ENSEMBLES (2)**
Prereq: by audition. Advanced performance and interpretation of contemporary jazz in an ensemble situation; recent developments in the idiom; performance of student compositions and arrangements. Repeatable for credit.
- 475 **CHAMBER JAZZ ENSEMBLE (2)**
Prereq: by audition; Music 334 or 434 strongly recommended. Supervised small ensemble playing in jazz idioms stressing repertoire, improvisation and performance of written arrangements and compositions. One public performance per quarter required. Repeatable for credit.
- 476 **ADVANCED OPERA PRODUCTION (1-2)**
Prereq: by audition. Preparation of opera scenes or a major musical production to include a public performance each quarter. Repeatable for credit.
- 480 **ADVANCED COLLEGIUM MUSICUM (2)**
Prereq: permission of instructor. Music literature studies from an analytical and performance viewpoint from early to pre-classic music, culminating in a public performance each quarter. Repeatable for credit.
- 481 **ADVANCED APPLIED CHAMBER MUSIC (2)**
Prereq: permission of chamber music coordinator. Open to piano, string, wind, brass and percussion performers. Repeatable for credit.
- 483 **ADVANCED CHAMBER VOCAL ENSEMBLES (2)**
Prereq: permission of instructor. Repeatable for credit.

Music

- 484 **ADVANCED VOCAL JAZZ ENSEMBLE (2)**
Prereq: by audition; Music 101, 102, 103 recommended. Preparation and performance of vocal works by major jazz composers. Open to all university students having the ability to sing in mixed chorus. Repeatable for credit.
- 485 **NEW MUSIC ENSEMBLE (2)**
Prereq: by audition. Performance of 20th-century music literature. Repeatable for credit.
- 486 **CHAMBER ORCHESTRA (1)**
Prereq: permission of instructor. Rehearsal and performance of chamber orchestra literature. Repeatable for credit.
- 490 **SENIOR THESIS (3)**
Prereq: admission to music history and literature program; permission of instructor. S/U grading.
- 499 **SENIOR RECITAL (3)**
Prereq: permission of instructor. A full-length, public recital approved by the student's Recital Committee. S/U grading.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 **INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES (3)**
Advanced work in conducting school band and orchestra music; baton technique, interpretation, score preparation and rehearsal techniques. Repeatable for credit.
- 502 **CHORAL CONDUCTING AND LITERATURE (3)**
Successful techniques in developing and conducting choral groups; score analysis of outstanding choral works; laboratory experience in conducting. Repeatable for credit.
- 503 **INTRODUCTION TO GRADUATE STUDY OF MUSIC (4)**
Sources and availability of music, recordings and literature about music throughout its entire history. Techniques of research bibliography and formal writing about music. Students will be expected to prepare and defend a formal written project.
- 511 **INDIVIDUAL INSTRUCTION — ADVANCED ORGAN (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, the student will be expected to participate in organ class performances and to hold a church organist position throughout his residence for the degree. Repeatable for credit.
- 512 **INDIVIDUAL INSTRUCTION — ADVANCED PIANO (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance will be expected each quarter. Repeatable for credit.
- 513 **INDIVIDUAL INSTRUCTION — ADVANCED STRINGS (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance of a significant work will be expected. The performance will be approved and evaluated by a faculty committee. Repeatable for credit.
- 514 **INDIVIDUAL INSTRUCTION — ADVANCED ORCHESTRAL WINDS AND PERCUSSION (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance of a significant work will be expected. The performance will be approved and evaluated by a faculty committee. Repeatable for credit.
- 515 **INDIVIDUAL INSTRUCTION — ADVANCED VOICE (3-4)**
Prereq: permission of the department. In addition to regularly scheduled private lessons, a public performance will be expected each quarter. Repeatable for credit.
- 525 **BRASS AND PERCUSSION TECHNIQUES AND MATERIALS (3)**
Pedagogical and fundamental performance problems for all brass and percussion instruments; appropriate literature for beginning through advanced levels; performance problems encountered within the school band and orchestra settings.
- 531 **ARRANGING (3)**
Practical techniques in arranging and composing for large and small ensembles. Summer only.
- 532 **ANALYTICAL TECHNIQUES: 20TH CENTURY MUSICAL PRACTICES (3)**
Analysis of works by various composers who have generated the major trends of 20th-century music.

533 ANALYTICAL TECHNIQUES: 19TH CENTURY MUSICAL STYLES AND PRACTICES (3)
Analysis of works by various composers who generated the major trends of 19th-century music.

534 COMPOSITION (4)
Prereq: Music 431. Composition, rehearsal and public performance of original works. Repeatable for credit.

540 ADVANCED COLLEGIUM MUSICUM (2)
Editing, coaching and performance of early music (before 1800) for chamber ensembles (vocal and instrumental). Students will be expected to prepare stylistically suited performing editions, coach these works and participate in their public performance. (Only 6 credits applicable toward M.Mus. degree.) Repeatable for credit.

541-544 HISTORY/ANALYSIS (4 ea)
An in-depth study of a particular segment of music from the period with historical perspective, analysis of representative works and bibliography and research techniques appropriate to the subject
541 Music from 900-1600
542 Music from 1600-1800
543 Music from 1775-1900
544 Music from 1900 to present.

550 SEMINAR IN THE HISTORY OF MUSIC (3)
Prereq: permission of instructor. Detailed study of a particular period or phase of the history of music designed to give students a first-hand acquaintance with one special area of musical literature and with musicological method.

555 ADVANCED BIRCH BAY BAND MUSIC WORKSHOP (2)
A reading workshop in materials and literature for school music band teachers. Participants are expected to prepare scores and conduct the ensemble. Course not applicable to M.Mus. degree. Offered summers only.

556 ADVANCED BIRCH BAY ORCHESTRA MUSIC WORKSHOP (2)
A reading workshop in materials and literature for school orchestra music teachers. Participants are expected to prepare scores and conduct the ensemble. Course not applicable to M.Mus. degree. Offered summers only.

690 THESIS (1-6)
Students in the composition concentration of the M.Mus. degree program may meet the thesis requirement by submitting a major original composition; students in the performance concentration may meet the thesis requirement by presenting a full-length public recital; students in the music education concentration selecting the conducting practicum for their thesis requirement will carry out a practical and/or creative conducting project, field study or investigation, or rehearsal/conducting series culminating in a public performance.



Theatre Arts

The Department of Theatre Arts offers a Bachelor of Arts in theatre, a Bachelor of Arts in Education—Theatre and a Bachelor of Arts in Education—English/theatre. State certification to teach is received concurrently with both Bachelor of Arts in Education degrees. The programs provide pre-professional training for those intending to pursue careers in theatre. Degree programs also provide preparation for those who wish to seek advanced degrees or in conjunction with other course work to prepare for teaching careers, law degrees, and business management professions—especially those focused on psychology, interpersonal and group communication or personnel management skills.

THEATRE

The Bachelor of Arts program is a balance of theory (formal academic classes with a strong dramatic literature component) and practice (lecture, demonstration, studio and production experience in all phases of theatre). A vigorous program of faculty-directed productions relates directly to class work. Supplemented by graduate and undergraduate directing projects, the production program offers numerous and varied opportunities for students to learn the exciting collaborative arts of theatre.

Each new student is grounded in fundamentals and chooses one or more areas of specialization: acting, children's theatre, dance, directing, dramatic writing, dramatic literature, musical theatre and technical theatre. Plays chosen for production range from the great classic dramas to the avant-garde and from original student scripts to Broadway musicals.

Special features of the program include touring theatre (performing for elementary and high schools in

sustained characterization for 60 performances) and summer stock where student actors work intensely in various phases of production including rehearsal for as many as three shows in a day.

Theatre students at Western learn by doing in a variety of special classrooms including a 1,130-seat proscenium house with computerized lighting control, a 200-seat modified thrust house, and a 100-seat experimental black box. Support facilities also include: an acting studio; a dance studio; costume, make-up, scene and paint shops.

For information and advisement contact the department chair, Dr. Douglas Vander Yacht, Performing Arts Center 395, (206) 676-3876.

THEATRE ARTS FACULTY

- DOUGLAS R. VANDER YACHT (1970) Chair. Associate Professor. BA, Western Washington State College; MA, Purdue University; PhD, Ohio State University.
- DENNIS E. CATRELL (1966) Professor. BA, University of Michigan; MA, Northern Illinois University.
- NOLAN A. DENNETT (1989) Lecturer. BA, Brigham Young University; MA, Western Washington University.
- ROGER GERMAIN (1970) Instructor. BA, Western Washington State College.
- VICTOR H. LEVERETT (1977) Instructor. BA, BA in Ed, Western Washington State College. MA, Washington State University.
- JAMES E. LORTZ (1989) Lecturer. BFA, University of Montana.
- PERRY F. MILLS (1981) Assistant Professor. BA, Western Washington State College; MA, Western Washington University.
- TEODORO MORCA (1988) Lecturer. Professional artist in dance.
- MAUREEN E. O'REILLY (1983) Associate Professor. BA, Whitman College; MA, University of Washington; MFA, University of Cincinnati.
- LEE H. TAYLOR (1967) Instructor. BA, Goddard College; MA, University of Washington.
- THOMAS E. WARD (1977) Associate Professor. BA, Western Maryland College; MFA, New York University, School of Arts.

BACHELOR OF ARTS

Major — Theatre 80 credits

- Core requirements (52 credits): Th A 135 or 138, 160, 170, 212, 213, 222, 250, 265, 285, 322, 380, 381, two courses selected from 428 a, b, c, d, e, plus 6 credits of dramatic literature
- Concentration (15 to 18 credits) selected from one of the following areas:
 - Acting: Th A 260, 261, 263, 266, 360, 361, 363, 460, 461
 - Children’s Theatre: Th A 350, 351, 450, 452, plus 6 credits under advisement
 - Dance: Th A 255, 256 or 257 and 235, 238, 241, 242, 336, 432
 - Directing: Th A 216, 260, 311, 314, 371, 470, 471
 - Dramatic Writing: Th A 385, 485, 486, 487, 488
 - Dramatic Literature: Th A 325, 327, 328, 365, 465, plus 6 credits under advisement
 - Musical Theatre: Th A 138, 260, 261, 266, 267, 360 and 366. Additional dance and voice lessons recommended.
 - Technical Theatre: Th A 216, 311, 312, 313, 314, 315, 411
- Electives (13-15 credits)

Minor — Theatre 30 credits

- Th A 101, 160, 170, 212, 222
- One course selected from Th A 201, 231, 250, 260, 285
- One course selected from Th A 314, 322, 350, 371, 385
- Electives under advisement

BACHELOR OF ARTS IN EDUCATION

Major — Theatre (Secondary Education) 60 credits

- Core requirements (28 credits): Th A 160, 170, 212, 213, 222, 322, 380, 381

- Concentration in secondary teacher preparation (23 credits): Th A 215, 216, 260, 266, 314, 371, 428a-e, 453
- Electives under advisement (select 3 courses for a total of 9 credits): Th A 250, 261, 311, 312, 360, 361, 366, 428a-e

Teaching Endorsement

This sequence meets the requirements for a Supporting Endorsement in Drama for Washington State Teacher Certification.

Theatre—Supporting Endorsement—Secondary

26 credits

- Th A 101, 160, 170, 212, 222, 255, 260, 350, 371

Major — English/Theatre

94 credits

(English 49 credits and Theatre 45 credits)

This major meets the requirements for Washington state teaching endorsements in both English and drama.

Theatre

45 credits

- Core requirements: Th A 101, 160, 170, 212, 213, 222, 250, 260, 261, 285, 322, 371, 380 or 381
- Recommended additional courses: Th A 360, 453, 470, 428a-e

English (see the English Department section of this catalog) 49 credits

GRADUATE STUDY

For a concentration leading to the Master of Arts degree, see the Graduate School section of this catalog.

A NOTE ON COURSE NUMBERING

In each level of course work (100, 200, 300, 400 and 500), the following numbering system has been used:

Technical Theatre	11-20
Literature	21-30
Dance	31-45

Theatre Arts

Children's Theatre	50-59
Acting	60-69
Directing	70-75
Playwriting	85-90

600-level courses are not a part of this system.

COURSES IN THEATRE ARTS

Courses numbered X37, X97, 300, 400, 417, 445 are described on pages 38-39 of this catalog.

All 200-level and above technique courses are by audition at the first class meeting.

- 101 INTRODUCTION TO THE ART OF THE THEATRE (3)
An introduction to the nature of the theatre, to plays and the way they work, and to the arts of the theatre and the activities of those who perform them.
- 128 READING PLAYS (3)
Reading of play texts from a selected list of 300, which will include all dramatic periods and styles, and study of supporting materials including a glossary of dramatic terms, genre/style distinctions, etc.
- 135 BEGINNING MODERN DANCE I (2)
The study of basic principles of dance movement in terms of placement, technique, and space, time, energy concepts. Emphasis will be on dance technique, creative movement experiences and developing an appreciation of the dance as an art form. Open to non-majors. S/U grading. Repeatable to 6 credits.
- 136 SPANISH AND FLAMENCO DANCE I (2)
Fundamentals of Spanish and flamenco dance technique including: postures, movements and introduction of footwork. There will be some basic repertoire covering the fundamental flamenco rhythms. Lecture will include basic history and interpretation of flamenco and Spanish dance
- 138 BEGINNING BALLET I (2)
An introductory study of basic principles of the ballet as an artistic and physical medium. Emphasis on French terminology, basic barre exercises, simple combinations in adagio and allegro. Open to non-majors. S/U grading. Repeatable to 6 credits
- 139 MODERN JAZZ DANCE (2)
Emphasis on control and isolation of body parts, rhythm and alignment. S/U grading. Repeatable to 6 credits.
- 160 INTRODUCTION TO ACTING (2)
Prereq: written permission of instructor. Th A 101 recommended. Fundamentals of acting; emphasis on basic techniques and tools used by the actor, including improvisation, resume writing, auditioning, vocal, physical and emotional awareness. Open to majors and non-majors.
- 161 ACTING WORKSHOP FOR HIGH SCHOOL STUDENTS (2)
Prereq: intended for, but not restricted to, students who have completed their junior year of high school. An intensive program to develop actor skills through daily physical, vocal and imagination training. Rehearsal and performance in a variety of theatre environments. Summers only. Recommndator s required.
- 170 INTRODUCTION TO DIRECTING (2)
Theory and practice of stage direction. Students are required to attend all lectures and act in at least three directing scenes. S/U grading.
- 201 INTRODUCTION TO THE CINEMA (3)
Training eye and ear to appreciate the work of the filmmaker. Analysis of the basic conventions of technique with an emphasis on critical exposition.
- 212 INTRODUCTION TO STAGECRAFT (5)
Basic theory of planning, drafting, construction and rigging of scenery. Practical lab experiences n scenery construction; painting, handling and rigging of scenery; one production crew assignment, with one scheduled lab assignment.
- 213 INTRODUCTION TO LIGHTING (4)
Prereq: Th A 212 or permission of instructor. Basic theory n planning, handling and rigging lighting and special effects; assignments on one major production with one scheduled lab assignment per week.
- 215 STAGE MAKE-UP (2)
Theory and practice of applying make-up for the stage. S/U grading.
- 216 STAGE COSTUMING (3)
Prereq: Th A 101 recommended. Costume design and execution, specific emphasis on basic sewing, use of patterns, materials and costume crafts, costume plots and wardrobe supervision.
- 222 UNDERSTANDING PLAYS (3)
Prereq: Th A 101 or permission of instructor. Reading a playscript with an eye to theatrical production. Introduction to primary dramatic forms (tragedy, comedy) Practice in speaking and writing intelligently about plays.

- 231 **INTRODUCTION TO DANCE (3)**
An overview of the cultural role of dance.
- 235 **BEGINNING MODERN DANCE II (2)**
Prereq: Th A 135 or equivalent. Further development of movement principles established in Th/D 135. Open to non-majors. Repeatable to 6 credits.
- 236 **SPANISH AND FLAMENCO DANCE II (2)**
Prereq: Th A 136. Secondary level of Spanish and flamenco dance technique with the emphasis of learning the repertoire of sevillanas, tangos, and rumba flamenca. Lecture will lead to in-depth knowledge of the art of flamenco.
- 238 **BEGINNING BALLET II (2)**
Prereq: Th A 138 or equivalent. Further development of principles of ballet. Increased difficulty and terminology; preparation for advanced levels. Open to non-majors. Repeatable to 6 credits.
- 241 **BEGINNING MODERN DANCE AND IMPROVISATION (2)**
Improvisational approaches to movement exploration for the non-dancer and dancer; developing a creative sensitivity to time, space, energy, motion and body awareness.
- 242 **DANCE COMPOSITION I (3)**
Prereq: Th A 235 or permission of instructor. Fundamentals of composition emphasizing theme and development; form or design; time force and spatial aspects in solo and some group studies.
- 250 **INTRODUCTION TO CHILD DRAMA (3)**
Children's theatre, creative dramatics, puppetry; history, value, philosophy and literature of child drama: its uses in theatre, speech therapy, education and recreation.
- 255, 256 **THEATRE/DANCE PRODUCTION (2 ea)**
Prereq: permission of instructor. For theatre majors: instruction and experience in technical aspects of theatre arts organization and production. For non-majors: as for majors and may include performance. S/U grading.
- 257 **THEATRE/DANCE PRODUCTION: PERFORMANCE (2)**
Prereq: permission of instructor. For theatre majors and non-majors: direct instruction and experience in performance work. S/U grading.
- 260 **ACTING STUDIO I: THEORY (3)**
Prereq: written permission of instructor. The theory of the physical, vocal, intellectual and emotional instrument of the individual actor will be explored in relation to character demands of a scene or play through the studio approach. Students demonstrate their knowledge of theory in both written and oral forms.
- 261 **ACTING STUDIO I: SCENE STUDY (3)**
Prereq: written permission of instructor. Application of the actor/character theory learned in Th A 260 is presented in at least two different scenes which the instructor must approve. It is in the actor's self-interest that, while in the category of American realism, each selection should offer a different writing style.
- 262 **SUMMER STOCK COMPANY (15)**
Prereq: for performers—Th A 260, 261 or equivalent experience; for technicians—Th A 212, 213, 311 or equivalent experience. Written permission of director of Summer Stock. Offered only summer quarter. Contact director of theatre for details.
- 263 **VOICE AND DICTION (3)**
Sequence of exercises and drills challenging improvement in resonance, breath support, articulation, relaxation, placement and vocal work ranging from good stage speech (mid-Atlantic) to dialect.
- 265 **ORAL INTERPRETATION (3)**
Basic theory and technique of effective oral presentation of poetry, prose and dramatic text.
- 266 **MUSICAL THEATRE I: FUNDAMENTALS (3)**
Prereq: permission of instructor. Practical application of singing and acting to performance-related work from American musical theatre through solo application.
- 267 **MUSICAL THEATRE II: FUNDAMENTALS (3)**
Prereq: Th A 266 or permission of instructor. Practical application of singing, acting and movement to performance-related work from American musical theatre through solo, duet and group exploration.
- 285 **INTRODUCTION TO DRAMATIC WRITING (4)**
Prereq: written permission of instructor. Beginning exercise in dramatic writing, with emphasis on primary forms and conventions.
- 311 **STAGE DESIGN TECHNIQUES (3)**
Prereq: Th A 212 or concurrent. Theory and practical experience in communicating technical and artistic information through drafting, and color-rendering.

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- 312 **ADVANCED STAGECRAFT (3)**
Prereq: Th A 212 and 311. Technical analysis of scripts; special effects and properties; laboratory work on productions.
- 313 **ADVANCED STAGE LIGHTING (3)**
Prereq: Th A 213 and 311. Technical and artistic study of light and color as they affect other theatre arts and contribute to artistic design; laboratory work in production.
- 314 **STAGE MANAGEMENT (3)**
Prereq: a minimum of 3 credits of acting and Th A 212. An in-depth study of the stage manager's role and responsibilities prior to, during and after production. Assignment to one major production.
- 315 **HISTORIC COSTUME FOR THE STAGE (3)**
Prereq: Th A 101 recommended. Evolution of *costume* from Ancient Greece through World War I with reference to contemporary reproduction.
- 322 **REPRESENTATIVE PLAYS (5)**
Prereq: Th A 222. Introductory survey of historically significant and stageworthy plays from all periods.
- 325 **MODERN EUROPEAN DRAMA (3)**
Prereq: Th A 222. Selected European plays and playwrights from 1850-1950.
- 327 **MODERN AMERICAN DRAMA (3)**
Prereq: Th A 222. Selected American plays and playwrights from 1920 to 1950.
- 328 **CONTEMPORARY DRAMA (3)**
Prereq: Th A 222. Selected plays and significant trends in contemporary English, European and American drama.
- 336 **RHYTHMIC ANALYSIS AND ACCOMPANIMENT (3)**
Prereq: Th A 235 or equivalent. Technical aspects of music and rhythms and musical forms as applied to dance movements; the function of percussion and accompaniment for dance techniques, improvisations and accompaniment.
- 350 **CREATIVE DRAMA (3)**
Prereq: Th A 250 recommended. Principles and methods for using improvised drama as an experimental means of fostering the young person's growing awareness of himself and his world. Laboratory work with students at elementary and secondary schools.
- 351 **PUPPETRY (3)**
Design, construction and manipulation of puppets; their use in productions for the child audience, in speech therapy, in elementary education, and as a craft for children.
- 360 **ACTING STUDIO II: VOCAL INTERPRETATION OF A ROLE (3)**
Prereq: written permission of instructor. Continuation of skills and refinement of techniques presented in Acting Studio I but with strong emphasis on voice and vocal characterization. Scene work from several major periods and styles is required.
- 361 **ACTING STUDIO II: PHYSICAL INTERPRETATION OF A ROLE (3)**
Prereq: written permission of instructor. Continuation of skills and refinement of techniques presented in earlier acting studios but with a strong emphasis on the use of the body and physical characterization. Scene work of several periods and styles is required.
- 362 **TOURING THEATRE (15)**
An intensive and comprehensive involvement in the study and practice of theatre production. Participants prepare all aspects of a touring production and an accompanying educational theatre workshop offered in elementary and secondary schools throughout the state; 40 to 60 performances.
- 363 **AUDITION PREPARATION (2)**
Prereq: Th A 260 and/or permission of instructor. Preparation of several contrasting monologues and development of specific performance skills to best demonstrate the varied talents of the individual actor in an audition format. S/U grading.
- 365 **ADVANCED ORAL INTERPRETATION (3)**
Prereq: Th A 265 or permission. Continuation and refinement of theory and techniques of oral interpretation from beginning oral interpretation (Th A 265) and introduction of Reader's Theatre theory and practice.
- 366 **MUSICAL THEATRE III: PRACTICUM (3)**
Prereq: Th A 267. Practical application of advanced skills to a class project; creating, rehearsing and performing a musical theatre performance.
- 367 **ACTING TECHNIQUES FOR THE CAMERA (2)**
Prereq: Th A 260. An introduction to auditioning and performance techniques used in acting for film and television.
- 371 **PLAY DIRECTION I (3)**
Prereq: Th A 170, 314 and a minimum of 3 credits of acting. Theory and practice of stage direction including selection of play, casting and blocking, and production of a scene for public performance.
- 380 **THEATRE HISTORY I (4)**
Development of the theatre arts from Classical Greece to 19th century romanticism.

- 381 THEATRE HISTORY II (4)
Prereq: Th A 380 or permission. Development of the theatre arts from the late 19th century to the present.
- 385 INTERMEDIATE DRAMATIC WRITING WORKSHOP (4)
Prereq: written permission of instructor. Further practice in primary forms and conventions of drama. Longer forms. Introduction to mixed forms and contemporary styles.
- 411 SCENIC DESIGN (3)
Prereq: Th A 312 and 313 or permission of instructor. Design for the modern theatre; emphasis on interpretation of the play through design; practical designs and techniques.
- 414 THEATRE BUSINESS PRACTICES (3)
Prereq: Th A 314; Th A101 recommended. Examination of the theories and approaches to business management in the theatre as well as practical application of those theories discussed including budgeting, promoting and producing.
- 428 MAJOR DRAMATISTS (3 ea)
Prereq: Th A 222. In-depth treatment of playwrights influential in the development of drama.
428a Greek & Roman
428b British
428c Continental
428d North American
428e Contemporary
Repeatable under advisement as a,b,c,d, or e with different subject matter.
- 432 HISTORY OF THE DANCE SINCE 1450 (3)
Prereq: permission of instructor. Significant topics of dance history from the Renaissance to the Modern Period with emphasis on the evolution of dance in Europe, Denmark and Russia during the 18th and 19th centuries.
- 433 LABANOTATION (3)
Prereq: Th A 231, 235, or equivalent. An elementary course in dance notation. Reading and writing bodily movements, ballet and modern dance sequences with emphasis on directions, levels, arm and leg movements.
- 434 THE DANCE ARTS IN EDUCATION (3)
Prereq: permission of instructor or demonstrated competency at the intermediate level in dance technique. Materials and methods of instruction in the modern dance and ballet. Observation and teaching opportunities in a laboratory studio environment.
- 450 CREATIVE DRAMATICS LEADERSHIP (3)
Prereq: Th A 350. Advanced techniques; supervised teaching.
- 452 CHILDREN'S THEATRE (3)
Prereq: Th A 350 recommended. Plays for children studied for appreciation of their values for the child audience; principles of children's theatre play selection.
- 453 SECONDARY DRAMA: METHODS AND CURRICULUM (3)
Prereq: one acting and one directing course under advisement. Exploration, discussion and devising of methods and curriculum for use in secondary drama classrooms. Creation of lesson plans and projects aimed specifically for drama students on a variety of subject.
- 460 ACTING STUDIO III: STYLE (4)
Prereq: written permission of instructor. Continuation of refinement of skills and techniques presented in Acting Studio II. This course is devoted to advanced workshops and performance projects with directors and playwrights with an emphasis on theatrical style.
- 461 ACTING STUDIO III: CHARACTER (4)
Prereq: written permission of instructor. Continued refinement of skills and techniques introduced in previous studios, with special emphasis on individual acting problems.
- 462 ADVANCED WORKSHOP IN SUMMER STOCK (15)
Prereq: written permission of director of Summer Stock required before registering. Offered only summer quarter. Contact Director of Theatre for details.
- 465 READER'S THEATRE (3)
Prereq: Th A 365 or permission. Continuation and refinement of theory and techniques of Reader's Theatre introduced in Th A 365. Public performance required.
- 470 PLAY DIRECTION II (3)
Prereq: Th A 371 and 30 hours in the major. Producing and directing a one-act play for public performance; special emphasis on working with the actor.
- 471 PLAY DIRECTION III (5)
Prereq: Th A 470 and written permission. Producing and directing a full-length play for public performance; emphasis on problems in high school, community and professional theatres.
- 472a,b HIGH SCHOOL DRAMA DIRECTORS INSTITUTE (2, 4)
A workshop for those who are now engaged or who intend to become engaged in the processes of play production, from script selection, production planning, casting and rehearsal to performance. This institute utilizes the resources of the concurrent acting workshop for high school students. Repeatable with permission of instructor. Offered summer only.

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485, 486, 487 DRAMATIC WRITING WORKSHOP (4 ea)

Prereq: written permission of instructor. Opportunity for disciplined expression in writing for stage, film, television or other media. May be repeated as Th A 485, 486 or 487 to a maximum of 12 credits.

488 REVISION AND PRODUCTION SCRIPT PREPARATION (2)

Prereq: permission of instructor required. Supervised revision and script preparation for production in any medium, and/or opportunity for extra work on full-length scripts. Normally taken concurrently with Th A 485, 486 or 487 when student's work is ready for actual production. Repeatable to 6 credits.

495 INTERNSHIP (1-12)

Prereq: junior status or above and permission of the chairman. Qualified third- and fourth-year students may apply to apprentice with theatre and/or dance companies, performing arts agencies or producing organizations. S/U grading. Repeatable to a maximum of 24 credits.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

501 INTRODUCTION TO RESEARCH IN THEATRE/DANCE (4)

Interpretation and evaluation of research outcomes; purposes and design of various methods with particular emphasis on historical and descriptive methods.

511 SEMINAR IN SCENIC DESIGN AND STAGE LIGHTING (4)

Prereq: Th A 313 and 411. Topics in the practice and principles of the scenic arts with individual projects in design.

512 ADVANCED SEMINAR IN SCENIC DESIGN AND STAGE LIGHTING (4)

Prereq: Th A 511. Advanced topics in the practice and principles of the scenic arts with individual projects in design.

522 SEMINAR IN DRAMATIC THEORY AND CRITICISM (4)

Prereq: undergraduate major in theatre or permission of instructor. Dominant concepts and issues of dramaturgical thought. Principles and practices of dramatic criticism.

528 SEMINAR IN DRAMATIC LITERATURE (3)

Intensive study of major dramatists or periods.

528a Greek and Roman

528b British

528c Continental

528d North American

529e Contemporary

a,b,c,d or e may be repeated once with permission of graduate adviser.

550 DRAMA IN EDUCATION (4)

Prereq: Th A 450 and 452, or equivalent. Critical review of theories and research in children's theatre and creative drama; the use of drama techniques in teaching grades K-12. Individual artistic or research projects.

551 THEATRE IN EDUCATION (4)

Prereq: Th A 550. Strategies for the implementation of the techniques for theatre production in the public schools.

560 ACTING (4)

Prereq: permission of instructor. Training for the actor with an emphasis on the historical; stage mechanics; self awareness, character action and development, styles, and script analysis.

561 ADVANCED ACTING (4)

Prereq: Th A 560. A continuation of Th A 560 with emphasis on contemporary approaches and application in production.

570 PLAY ANALYSIS AND THEATRE PRODUCTION PLANNING (4)

Theories of play analysis and theatre production organization from the point of view of the play director preparing to produce a play.

571 SEMINAR IN PLAY DIRECTION (4)

Prereq: Th A 471. Topics in the principles and practices of the art of play direction with individual student projects.

572 ADVANCED SEMINAR IN PLAY DIRECTION (4)

Prereq: Th A 571. Advanced principles and practices of play direction with individual student projects.

585 PLAYWRITING SEMINAR (5)

Individual projects in dramatic writing will be submitted for group discussion.

586 ADVANCED PLAYWRITING SEMINAR (5)

Prereq: Th A 585 or permission of instructor. Individual projects in playwriting.

595 INTERNSHIP IN THEATRE ARTS (1-6)

(Option II.) Experimentation leading to the development of new methods and materials in the teaching and/or practice of theatre. May involve on- or off-campus projects.

690 THESIS (1-9)

691 RESEARCH PAPER (1-3)

Planning and execution of a publishable scholarly paper.

HUXLEY COLLEGE OF ENVIRONMENTAL STUDIES

Dr. John C. Miles, Dean

As we approach the beginning of the 21st century, it is clear that one of the responsibilities of colleges and universities is to help society become aware of environmental problems and issues. A new synthesis of knowledge is needed that is global in its frame of reference, interdisciplinary in its character and experimental in its work.

Huxley College contends that the more people know about their environment in its interdependent detail, the better they will be able to make correct decisions relative to a quality of life that depends on the environment. To this end the College teaches and researches, in an interdisciplinary and systematic way, the complex issues and problems of the natural environment and its social overlay. Its aim is to impart knowledge and to encourage rational and acceptable approaches to environmental problem solving.

Environmental studies at Huxley center on three academic majors: environmental science, environmental policy and assessment, and environmental education. Studies in these program areas lead to the B.S. or B.A. degree in environmental studies and allow students to pursue specialization or breadth, to acquire a synthesis of environmental knowledge and to develop skills applicable to careers or to further advanced study.

At Huxley, faculty, staff and students alike work to create a teaching-learning environment that reflects the ideals and values of personal communication, independent learning, new approaches to education and a sense of community. Huxley is a gathering place and a focus for those

genuinely concerned about the environmental well-being of the earth.

At Huxley there is real opportunity for students to contribute to the growth and functioning of the College. Students often attend faculty meetings, co-sponsor seminars with faculty members, and work with faculty and staff on decision-making College committees.

Huxley College was created in 1968 to develop programs of environmental studies that reflect a broad view of man in a physical, biological, social and cultural world. This interdisciplinary approach is supported by courses in marine, freshwater or terrestrial ecology; environmental chemistry; environmental toxicology and nutrition; watershed management; human ecology; environmental policy and decision-making; outdoor and experiential education; and environmental journalism. Most of Huxley's courses are at the junior and senior levels. Lower-division preparation may be completed at Western or at another institution, following the guidelines set forth in the Admissions and Declaration of Major sections of this listing.

REGION AND RESOURCES

Huxley College is located at the interface of several important environmental regions: the mountains of the North Cascades range and the shores of Puget Sound and the Pacific Ocean, the urban industrial regions of Seattle and Vancouver, B.C., and the rural agricultural regions of Western Washington. Oil refining, logging in the Cascades, pulp and

Huxley College

paper manufacture, aluminum production, fisheries, and aquaculture are key industries in the area.

Instruction and research at Huxley College are carried out in the Environmental Studies Center, a six-floor laboratory, classroom, and studio facility on the WWU campus. The Center also houses the offices and laboratories of the Institute for Environmental Toxicology and Chemistry, which provides opportunity for research and education on the effects of toxic substances on aquatic and terrestrial species, and the Institute for Watershed Studies, which provides opportunity and specialized equipment for freshwater and watershed studies. Leona M. Sundquist Marine Laboratory at Shannon Point on Fidalgo Island, within easy traveling distance of the campus, provides facilities for marine studies.

About 330 students are currently enrolled in Huxley College. Huxley students are members of the WWU student body, which totals about 9,000. They have access to all library and computer facilities, and the academic, athletic and recreational activities of Western.

HUXLEY FACULTY

- JOHN C. MILES (1968) Professor and Dean of Huxley College of Environmental Studies. BA, Dartmouth College; MA (Recreation and Park Management), University of Oregon; PhD (Environmental Education), Union Graduate School.
- JAMES R. ALBERS (1971) Professor. BS, Washington State University; MS, George Washington University; PhD (Physics), University of Washington.
- MICHAEL FROME (1987) Environmental Journalist-in-Residence. City College of New York; George Washington University.
- ERNST L. GAYDEN (1971) Associate Professor. PhD, University of Chicago; MS, Illinois Institute of Technology.
- JOHN T. HARDY (1989) Associate Professor. BA, University of California, Santa Barbara; MS, Oregon State University; PhD (Marine Botany and Aquatic Ecology), University of Washington.
- WAYNE G. LANDIS (1989) Associate Professor and Director, Institute for Environmental Toxicology and Chemistry. BA, Wake Forest University; MA, PhD (Zoology), Indiana University.

- CHRISTINE C. MAGUIRE (1990) Assistant Professor. BA, William Paterson College of New Jersey; MS, PhD (Zoology/Ecology), Rutgers University.
- ROBIN A. MATTHEWS (1986) Assistant Professor. BS, University of California Riverside; MSES, Indiana University; PhD (Aquatic Ecology), Virginia Polytechnic Institute and State University.
- J. RICHARD MAYER (1978) Professor. BS, Union College; MA, Columbia University; PhD (Organic Chemistry), Yale University.
- LYNN A. ROBBINS (1971) Professor. BA, University of Utah; MA, PhD (Anthropology), University of Oregon.
- THOMAS A. STORCH (1980) Professor and Director, Institute for Watershed Studies. BA, Ohio Wesleyan University; MS, PhD (Zoology), University of Michigan.
- WILLIAM C. SUMMERS (1971) Professor. BME, PhD (Zoology), University of Minnesota.
- HERBERT H. WEBBER (1970) Professor. BSc, PhD (Zoology and Marine Biology), University of British Columbia.
- RUTH F. WEINER (1974) Professor. BS, MS, University of Illinois; PhD (Physical Chemistry), The Johns Hopkins University.
- MING-HO YU (1970) Professor. BS, National Taiwan University; MS, PhD (Plant Nutrition and Biochemistry), Utah State University.

Adjunct Faculty

- RICHARD S. BENNETT
USEPA Corvallis Research Laboratory, PhD (Animal Ecology), Iowa State University.
- DOUGLAS BULTHUIS
Marine Science Laboratories, State of Victoria, Australia. PhD (Botany), LaTrobe University, Australia.
- ERIC CRECELIUS
Battelle Pacific Northwest Division, PhD (Oceanography), University of Washington.
- RONALD J. KENDALL
Institute of Wildlife Toxicology, Clemson University. PhD (Fisheries and Wildlife Science), Virginia Polytechnic Institute and State University.
- PETER WILLING
PhD (Water Resources Policy), Cornell University.

Affiliated Faculty

- RANDALL S. BABCOCK, Associate Professor, Department of Geology.
- DANIEL L. BOXBERGER, Associate Professor, Department of Anthropology.
- SARAH CAMPBELL, Assistant Professor, Department of Anthropology.
- LOWELL T. CROW, Professor, Department of Psychology.
- GEORGE T. CVETKOVICH, Professor, Department of Psychology.
- MELVIN DAVIDSON, Professor, Department of Physics and Director, Computer Center.
- CONSTANCE FAULKNER, Professor, Fairhaven College.

MAURICE H. FOISY, Associate Professor,
Department of Political Science.

STEVEN E. HENSON, Associate Professor,
Department of Economics

RAND F. JACK, Professor, Fairhaven College.
ROBERT E. KELLER, Professor, Fairhaven
College.

HARVEY A. KELSEY, Associate Professor,
Department of Geology.

DAVID T. MASON, Professor, Fairhaven
College.

GEOFFREY B. MATTHEWS, Associate Profes-
sor, Department of Computer Science.

DAVID E. SCHNEIDER, Associate Professor,
Department of Biology

MAURICE L. SCHWARTZ, Dean, Graduate
Affairs and Research, and Professor,
Department of Geology.

KATHLEEN J. STEPHEN, Associate Professor
and Science Librarian, Wilson Library

STEPHEN SULKIN, Professor and Director,
Shannon Point Marine Center.

RONALD J. TAYLOR, Professor, Department of
Biology.

DON C. WILLIAMS, Professor, Department of
Biology.

H. WILLIAM WILSON, Professor, Department of
Chemistry, and Director, University
Instrument Center

ADMISSIONS AND DECLARATION OF MAJOR

Admission to Huxley College is selective and based upon preparation and prior academic performance. Students with less than 75 credits may be admitted to the College as pre-majors. Acceptance as a pre-major allows the College to advise first- and second-year students on how they may prepare for admission to major status.

A student must have earned at least 75 quarter hours of college credit and have met specific academic requirements prior to applying for admission to a Huxley College major.

All applying students must have completed:

- An expository writing course above the 101 level
- A course in microeconomics
- A course in philosophy, preferably ethics or moral philosophy

Students wishing to apply for admission to the major in environmental science must complete, in addition to the courses above:

- One year of general biology

- One year of general chemistry
- Two quarters of calculus

Those applying for admission to any other Huxley College major must complete, in addition to the courses above:

- Two quarters of general biology
- One quarter of general chemistry
- One quarter of precalculus

All students must complete an application to Huxley College. Application forms are available through WWU's Admissions Office or through Huxley College, ES 539.

Enrollment in most upper-division courses (300 and above) is restricted to students who have been officially admitted to Huxley College or who have been given special permission to enroll.

TRANSFER STUDENTS

Transfer applicants are encouraged since Huxley's curriculum is mainly an upper-division program. The first step for a transfer student to be admitted to Huxley College is application and admission to Western Washington University.

Transfer applicants are evaluated by Western's Office of Admissions for transfer credit and for credit toward completion of the General University Requirements. Students who intend to seek a degree in environmental studies should so indicate on the "Uniform Undergraduate Application for Admission to Four-Year Colleges and Universities, State of Washington" and should request an application form for Huxley College.

Students who have earned certain associate's degrees from community colleges in Washington State are considered to have completed the General University Requirements; prospective transfers should consult the WWU Office of Admissions for information on which degrees are accepted under this agreement. However, students holding associate's degrees from community colleges with which Western has no for-

Huxley College

mal agreement must complete Western's General University Requirements.

Students holding a B.A. or B.S. degree from an accredited college or university who are working toward a second bachelor's degree will be considered as transfers who have completed the GURs.

DEGREE PROGRAMS

To achieve its purpose in undergraduate education, the College has developed an integrated set of three majors, each of which offers the student a number of options and emphases. These majors lead to a B.S. in environmental studies:

- Environmental Science
- Environmental Policy and Assessment
- Environmental Education

In addition, the College offers a B.A. degree with a humanities-oriented major in environmental studies; a B.A. in Education with an environmental studies major; student/faculty-designed majors; and minors in environmental studies and environmental science.

Requirements for Bachelor's Degrees

Besides the General University Requirements for graduation from the University, explained elsewhere in this catalog, Huxley College has the following specific requirements for baccalaureate degrees:

- A Huxley College major (B.S. program), student/faculty designed major, or the environmental studies major leading to the B.A. or B.A.Ed.
- At least one full year (45 quarter credits) as a member of Huxley College, including the final quarter before issuance of a degree.
- A cumulative grade point average of 2.0 (C) or better, with no grades less than C- acceptable in

Huxley background courses, or courses that define a student's major or minor.

Students interested in any of these degree programs should contact the Huxley College office (Environmental Studies Building 539) for advisement on admission to Huxley College and selection of a faculty adviser.

BACHELOR OF SCIENCE — ENVIRONMENTAL STUDIES

Huxley students pursuing B.S. degrees will complete certain "common requirements" and, in addition, specific course requirements for a major.

Huxley's majors are broadly conceived and allow students to elect coursework, seminars and independent study in freshwater, marine, coastal and terrestrial ecology; air and water pollution; environmental chemistry; environmental toxicology; environmental risk management; nutritional science; applied human ecology; outdoor education and interpretation; mass communications; and environmental policy and administration.

A student whose interest lies in marine resources and problems of the marine environment, for example, may major at Huxley in environmental science, with emphasis in such subjects as marine ecology, oceanography, estuarine ecosystems, and coastal ecosystems management, selecting coursework from Huxley offerings and those of other units at Western.

Students whose concerns are with the effects of environmental pollutants and toxins on living systems will find appropriate course work among Huxley College offerings, as will those who plan to concentrate their efforts on the social and humanistic dimensions of environmental problems.

Huxley Common Requirements

32 credits

These requirements consist of five

core courses; Huxley seminars; and the choice of a senior thesis, a senior project or an internship.

Core Courses **18 credits**

The core courses provide a common background of environmental concepts, knowledge and perspectives essential for understanding the role of man within an interdependent physical, biological, social and cultural world.

- Envr 301, 302, 303, 401, 402

Seminars **4 credits**

Huxley seminars, which are one- or two-credit courses, serve as a meeting ground for faculty and students to work together on topics of contemporary or special interest. Typically, a seminar will be limited to 15 students to stimulate discussion and foster communication across disciplinary boundaries. Students are encouraged to initiate and, with faculty involvement, to conduct seminars. Recent seminars include:

- Biology and Chemistry of the Water's Surface
- Bioregionalism: Cultural Approaches to Environmental Problems
- Contemporary American Nature Writing
- The U.S. High-Level Radioactive Waste Program
- Waste Management: Technology and Ecology
- The Media and the Environment
- Current Forest Practices in Washington

Senior Thesis (498a) **10-15 credits**

Normally taken in the senior year, the Senior Thesis is a special project carried out under the supervision of faculty advisers and written in thesis form according to guidelines supplied by the College. It may reflect a single study topic or form part of a major investigation which may take the form of fieldwork or laboratory, library or community research. Two bound copies of the Senior Thesis are submitted by the student, one of

which is kept on file in Wilson Library. The thesis must be submitted to the student's adviser in at least first-draft form by the third week of the student's last quarter of study.

Internship (498b) **10-15 credits**

An Internship is a supervised work experience typically of one to three months' duration in a government agency, legislature, corporation, lobby, lawyer's office or research laboratory, where the work involved is relevant to environmental studies. The student keeps records during the internship, which is then documented by a written report with such items as slides, drawings, graphs or tables that may be necessary according to guidelines supplied by the College. Choice of internship and preparation of the report are under the supervision of faculty advisers.

The internship report must be submitted to the student's adviser in at least first-draft form by the third week of the student's last quarter of study.

Students whose full-time, quarter-long internships earn from 11 to 15 credits will accumulate more than the required 32 credits of common requirements.

Senior Project (498c) **10-15 credits**

The Senior Project may be a creative or community project, undertaken with faculty advisement, that falls outside the parameters of the Senior Thesis or Internship in that it is not reported using thesis guidelines or is not a supervised work experience. Examples of a senior project might be the writing of a children's book on ecology or the establishment of an interpreted nature trail in the community. The results of the project must be reported in written, taped, filmed or graphically portrayed form appropriate to the project and submitted in at least first-draft form by the third week of the student's last quarter of study.

Recent Senior Theses:

- Groundwater Concentrations of

Huxley College

the Pesticides Ronilan and Parathion in an Agricultural Field

- Survey of Huxley Graduates: 1984-1989
- An Uncommon Vision: A Chronicle of Work toward the Preservation of Madrona Point on Orcas Island
- Determination of Land Cover of the Lake Whatcom Watershed Using Landsat's Thematic Mapper Sensor
- Operation Ranch Hand: U.S. Military Use of Herbicides in Vietnam, 1961-1972
- Removal of Hydrocarbons in a Stormwater Biofiltration Facility

Recent examples of internships include work with:

- Olympic National Forest
- City of Redmond
- City of Olympia Public Works Department
- Padilla Bay-Breazeale Interpretive Center
- Wolf Hollow Wildlife Rehabilitation Center
- Environmental Resource Services
- State Legislatures
- Public Schools
- National Parks

Major — Environmental Science 90 credits

The Huxley College environmental science curriculum is aimed at students having interests in:

- Watershed studies
- Wildlife or behavioral toxicology
- Marine or terrestrial ecology
- Conservation biology
- Water quality
- Aquatic chemistry
- Environmental nutrition
- Science policy studies

The Huxley major in environmental science, through its required courses and choice of electives, permits a student to specialize in the above areas of study, as well as related areas, at a level appropriate for an undergraduate degree program.

This major is designed as a two-year, upper-division B.S. degree program which assumes that incoming students have an adequate background in science and math.

The environmental science major requires:

A. Huxley common requirements 32 credits

- Envr 301, 302, 303, 401, 402 (18)
- Envr 498a, 498b or 498c (10-15)
- Envr 499 (4)

B. Environmental science core courses 26-28 credits

- Biol 325
- Envr 340 or Biol 340
- Envr 358 or 450
- Envr 365 or 462
- Envr 436
- One of the following three courses: Envr 321, 361, or 430a

C. Upper-Division Electives Chosen Under Faculty Advisement 30-32 credits

A, B and C above must total at least 90 credits.

Graduates of Huxley College who have completed the environmental science major have entered careers in environmental toxicology, watershed management, environmental impact assessment, environmental health, air pollution control, and hazardous waste management, in both the private and public sectors. Many graduates choose to pursue advanced studies.

Science faculty advisers: James Albers (population problems, alternative futures, energy policy); Jack Hardy (oceanography, climate change, toxicology); Wayne Landis (aquatic toxicology); Christine Maguire (terrestrial ecology); Robin Matthews (stream ecology and watershed management); Dick Mayer (water chemistry and groundwater studies); Tom Storch (limnology, lake and watershed studies); Bill Summers (marine ecology); Bert Webber (marine and estuarine biology); Ruth Weiner (air quality,

energy, science policy); Ming-Ho Yu (nutritional biochemistry, environmental biochemistry).

Major — Environmental Policy and Assessment 88 credits

The goal of this major is to give students understanding and skill in assessing the nature and magnitude of the economic, political and social changes which environmental problems appear to make necessary. Until about 30 years ago the impact of our rapidly expanding civilization on nature was still almost imperceptible to most people, and claimed very little of the attention of politicians and economists. Today this impact has grown so alarmingly that leaders of politico-economic systems, awakening to such world-wide dangers as resource depletion, desertification, climate change, population growth, and urban blight and congestion are beginning to realize that during the coming few decades great political and economic reforms may have to be made.

By providing students with the knowledge and tools for understanding the magnitude of the contemporary challenge, the concentration helps students to train themselves for the increasing variety of employment opportunities in environmental administration, policy formation and enforcement which will emerge in the coming decades; and to become effective shapers of public opinion in whatever career field they may choose. The offered courses focus on domestic and foreign environmental policies, economics, social and environmental impact assessment, environmental design and risk management, and examine the philosophical and ethical issues which environmental constraint raises.

Many students completing the Environmental Policy and Assessment major go on to graduate study, and there is now an increasing selection of excellent graduate programs emphasizing environmental policy. Job placement has been high as well.

Major advisers: Ernst Gayden (human ecology, environmental design); Lynn Robbins (comparative environmental policies, social impact assessment); Ruth Weiner (environmental policy).

The major is based on two general objectives:

- The acquisition of general scientific, social and philosophical understanding of environmental problems
- The learning of skills and methods

To meet the requirements of the major it is necessary to complete the following:

- Huxley common requirements 32 credits
 - Envr 301, 302, 303, 401, 402 (18)
 - Envr 498a, 498b, or 498c (10-15)
 - Envr 499 (4)
- Major requirements 30 credits
 - Envr 415, 418, 436, 464, 465, 490; Soc 215
- Electives under advisement from Huxley or other WWU colleges 20-22 credits

Recommended lower-division preparation for the Environmental Policy and Assessment major includes at least one college-level course in history and courses in introductory sociology and political science. Interested students should seek advisement early concerning their lower-division preparation.

Major — Environmental Education

The general objective of the major in environmental education is to provide students interested in educational roles of various types with an opportunity to obtain a basic understanding of the qualities of the environment in general and of the environmental education process in particular. Two options have been developed within the program which will allow students with varied inter-

ests opportunities to work toward diverse career goals.

The major consists of several distinct parts. First, students seek to acquire a synthetic and holistic understanding of the content of environmental studies. Second, students examine the process of education from the environmental perspective; i.e., how the environmental education process differs from other processes of education, what ideas and methods are central to the process and what specific techniques are available to facilitate it. Third, students investigate ways of applying environmental education content and techniques in the professional roles which they may pursue. Fourth, students participate in internships, a field practicum, or research.

Graduates of this major have found positions as teachers in public and private schools, as interpreters with resources management agencies, and as staff in programs for special populations such as juvenile offenders and the handicapped, among others.

Option I — Outdoor Education and Interpretation 90 credits

The goal of this option is to prepare students to pursue environmental education careers in non-formal educational and recreational settings. Persons choosing this option will design programs of study to prepare them for work as outdoor education leaders and interpreters of various environments.

- Huxley common requirements 32 credits
- Major requirements 27 credits
—Envr 371, 372, 473, 474, 475, 476, 477
- Electives under advisement 31 credits

Option II — Mass Communication and Environmental Education 90 credits

This option allows students to combine their interests in education,

environmental studies, mass communication, and/or media technology utilizing extensively coursework in other colleges at Western which specialize in various aspects of communications.

- Huxley common requirements 32 credits
- Major requirements 24 credits
—Envr 371, 372, 377, 466, 481, 482
- Electives under advisement 34 credits

Recommended preparation for Environmental Education: Interested students should seek advisement early in order to formulate a degree program within either of the above options.

Major adviser: John Miles (environmental/experiential education; humanities in environmental studies)

Student/Faculty Designed Major

Students who wish to design their own majors in environmental studies should obtain complete guidelines from the Huxley College office (ES 539). The student-designed major must be developed with faculty advisement and must be approved by two faculty members and the Huxley College Curriculum Committee at least four quarters before the student's anticipated graduation.

Combined Major Environmental Studies/Biology

Huxley students may elect programs in terrestrial ecology or marine biology through cooperative programs offered in conjunction with the Department of Biology. The programs lead to the B.S. degree in environmental studies. Students may obtain complete guidelines for these programs in the Huxley College office (ES 539).

Program in Terrestrial Ecology—Cooperative Program 100 credits

- Huxley common requirements 32 credits
 - Envr 301, 302, 303, 401, 402
 - Envr 498a,b
 - Envr 499
- Major requirements 51 credits
 - Select two from Biol 210, 211, 212
 - Biol 321
 - Biol 325
 - Biol 403 or 479
 - Biol 404
 - Biol 452
 - Envr 340
 - Envr 431a,b
 - Envr 435
 - Envr 439
- Upper-division electives under advisement 17credits

Background preparation courses (required but not counted in the 100-credit program)—Chem 121, 122, 123; Chem 351, 352, 354 (organic chemistry sequence) or Chem 251 and Envr 361; Math 124

Faculty adviser: Christine Maguire

Program in Marine Biology—Cooperative Program 110 credits

The program requires background preparation in biology, chemistry, physics and math at the lower-division level before the student embarks on the 110-credit program. The major consists of 10 credits of specific lower-division biology courses; 32 credits of Huxley College common requirements; 14-15 credits of ecology core courses; 25 credits of marine biology courses; and 28-29 credits of electives under faculty advisement.

Program advisers: Herbert H. Webber; William C. Summers

Interdisciplinary Nutrition Program

The interdisciplinary program is designed to prepare students for employment or advanced study in one of several professions and occupations including public health nutrition, nutritional science and consumer advocacy in nutrition. The nutrition

program draws upon faculty and courses offered at Huxley College and throughout the University. For further information, see the Home Economics Department section of this catalog or contact Dr. Ming-Ho Yu (676-3676) or Lou Kupka-Schutt (676-3373).

BACHELOR OF ARTS — ENVIRONMENTAL STUDIES

Major — Environmental Studies 72-78 credits

Huxley's Bachelor of Arts degree program gives insight into the historical, cultural and psychological roots of today's environmental predicament. Since the dawn of civilization humans have exploited the natural environment and built themselves artificial and cultural environments. Thus, among others, Greek, Roman, Medieval, Renaissance, Industrial and Modern periods have created distinctive human environments, each having its particular virtues and problems, and each being the expression of a particular cultural world view. The program is based on the belief that much light can be shed on contemporary environmental problems by studying literature, cultural history and the forms of environmental problems in the major regions of the world today.

Students enrolled in the program must:

1. Complete Huxley environmental studies courses as follows: (36-40 credits)

- Core courses: Envr 301, 302, 303, 401, 402 (18 credits)
- Seminars (4 credits)
- Electives under advisement, 300 and 400 levels only (14-18 credits)

2. Complete, under Huxley faculty advisement, course work in only one of the following departments: anthropology, art, English, geography, history, liberal studies, political science, psychology, sociology (26 credits)

Huxley College

3. Complete one of the three options below, under Huxley faculty advisement (10-15 credits)

- Electives selected from any academic unit except the one chosen for (2) above (10-12 credits)
- A senior thesis (10-15 credits)
- One quarter of study abroad (10-12 credits) [credits earned here may not count under (1) or (2)]

Combined Major — Environmental Studies/ Journalism

83 credits

A combined major is offered cooperatively by Huxley College and the Department of Journalism. In past years several students on their own initiative combined these majors and have moved on to productive careers in the field. Now an integrated program equips professionals on a systematic basis.

The emphasis is on writing with a purpose: to present to the public sound data as the means of making wise, informed decisions on air quality, water quality, land use, wildlife conservation and other critical environmental issues.

The heart of the program encompasses courses from journalism in newswriting, copy editing, reporting, feature writing, photo-journalism and public relations. From courses at Huxley the environmental journalism student develops working knowledge of conservation history, basics of physical science, current issues and alternatives to them. Environmental studies background courses in biology, chemistry and mathematics are essential preparation.

Environmental Studies

37 credits

- Huxley core courses, consisting of Envr 301, 302, 303, 401, and 402 (18 credits)
- Envr 499 (4 credits)
- Electives from among Huxley courses: highly recommended are Envr 418, 436 and 439 (15 credits)

Journalism

46 credits

- Journ 104 or 406 (3 credits)
- Journ 160, 204, 304, 340, 350, 404, 430, 470 and 480 (31 credits)
- Three staff courses from the following list "A": Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414 (6 credits)
- Three additional staff courses from the following list "B," or list "A": Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423, 431, 432, 433 (6 credits)

Some of the staff course requirements may be waived by substitution of equivalent professional experience. The journalism "outside concentration" requirement is satisfied by the environmental studies portion of the program.

Faculty adviser: Michael Frome

Combined Major — Environmental Studies/ Economics

100 credits

A combined major in environmental studies and economics is available to students having a strong interest in the economic aspects of environmental studies and natural resources and who may contemplate graduate work or careers focused on these aspects.

- Envr 301, 302, 303, 401, 402, 436, 490; Envr 464 or 465; Envr 340 (or equivalent) or FMDS 255 (or equivalent); Envr/Econ 493 (or approved alternative)
- Econ 206, 207, 271, 303, 306, 307, 383, 483
- 16-17 elective credits in upper-division environmental studies courses, and 12 elective credits in upper-division economics courses, to be selected under faculty advisement

Faculty advisers: Lynn Robbins, Herbert Webber, James Albers

BACHELOR OF ARTS IN EDUCATION

Major — Environmental Studies

46 credits

This program fulfills the academic major requirement for elementary education candidates who wish to have a solid background in studies related to the environment. Although environmental studies itself is not an endorsable area, some of the courses might be counted toward endorsement in other areas. Students should contact a faculty adviser for clarification of course work applications.

- Prerequisites: Biol 121, Chem 115, Math 105
- Required courses (Environmental Studies core): Envr 301, 302, 303, 401, 402 (18 credits)
- Required course (Environmental Education) Envr 371 (4 credits)
- Environmental studies seminars: Envr 499 (4 credits)
- Environmental studies electives under advisement (20 credits)
- Elementary Education Professional Program. See Department of Educational Curriculum and Instruction section.

MINORS

Minor — Environmental Studies 24 credits

Huxley's environmental studies minor is open to all students at Western who have completed prerequisites for the courses comprising it.

- Envr 110 and 202 (6 credits)
- Two environmental studies core courses selected from 301, 302, 303, 401, 402 (6-8 credits)
- Environmental studies electives under advisement (10-12 credits)

Minor — Environmental Science 25 credits

Huxley's environmental science minor is open to students whose majors in the science disciplines would be complemented by an environmental science minor and who have completed prerequisites for the courses comprising the minor.

- Envr 301 and 302 (7 credits)
- Envr 321 (4 credits) or 430a (3 credits)
- Envr 358 (3 credits)

- Envr 361 (4 credits)
- Upper-division environmental science electives under advisement (7-8 credits)

GRADUATE STUDY

The Huxley College graduate program draws upon graduate course work in Huxley College and the College of Arts and Sciences' science departments and leads to the Master of Science in environmental science degree. Four major areas of program emphasis are recognized: environmental toxicology, applied ecology, environmental chemistry, and marine and estuarine science. Within the applied ecology emphasis, students may design programs emphasizing freshwater ecology or environmental management. One of the options within environmental chemistry is nutritional biochemistry; another is a cooperative program with the Department of Chemistry.

The College also participates in a cooperative program with the Department of Political Science, leading to an M.A. in political science with an emphasis on environmental studies.

Western Washington University is a member of the Western Interstate Commission for Higher Education (WICHE). This membership entitles out-of-state graduate students from participating western states to pay in-state tuition when enrolling in the environmental toxicology option of Huxley's M.S. program in environmental science.

Program options and requirements are described in the Graduate School section of this catalog.

INSTITUTE FOR ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY

Director: Wayne W. Landis

The Institute for Environmental Toxicology and Chemistry, established at

Huxley College

Huxley College in 1989, is engaged in research and education in the fields of both aquatic and terrestrial toxicology. Offices and laboratories of the Institute are located in the Environmental Studies Building. A 23-acre field research facility, the Environmental Research Laboratory (ERL) is currently under development to augment laboratory and field facilities for research in aquatic, terrestrial and microbial systems. Offices and a meeting center, along with laboratory space, a source pond for limnological and population studies, a terrestrial research area and storage facilities for hazardous wastes will provide research capabilities for a wide variety of toxicological research.

While centered at Huxley College, the work of the Institute is University-wide in scope, involving faculty in several academic units at Western.

Current laboratory and field investigations include:

- A cooperative project with Health Designs Inc. to establish a Center for Environmental Quantitative Structure Activity Research (CEQSAR), using structure activity models based on mathematical equations derived to estimate the toxicity of a chemical from its structure and to establish toxicological relationships across species boundaries.
- An exploration, with EPA Corvallis Laboratories, on the use of gamebird chicks as a means of monitoring an open field site for acute, chronic or behavioral toxicants.
- Studies on the environmental effects of organophosphates—their metabolism, fate and mode of action—concentrating on examination of enzyme systems that hydrolyze and detoxify a wide variety of organophosphate acetylcholinesterase inhibitors. Enzyme studies are under way on birds and marine and freshwater invertebrates.

- Under the sponsorship of EPA, investigation of the accumulation of pollutants in the surface microlayer of marine and fresh waters.
- Research into the survivability of degradative organisms in the standard aquatic microcosm.

The Institute provides opportunities for graduate and undergraduate students to participate in ongoing research projects and undertake thesis research through Huxley's programs in environmental science.

INSTITUTE OF WATERSHED STUDIES

Director: Thomas A. Storch

With offices and laboratories in the Environmental Studies building, the Institute for Watershed Studies conducts and promotes research on watersheds and stream and lake systems, provides analytical services to students and faculty engaged in the study of watersheds, and coordinates activities having to do with these resources. Analytical service and instrumentation is available to students and faculty for research and instructional purposes, including an aquatic toxicology laboratory. Recent research activities of the Institute have centered on the chemistry of North Cascade lakes, watershed management and lake monitoring.

THE CENTER FOR APPLIED HUMAN ECOLOGY/ APPROPRIATE TECHNOLOGY

This Center serves faculty and students interested in the technologies appropriate to applied human ecology.

Appropriate technologies meet human needs for basic goods and services with minimal environmental disruption. They include use of sun, wind, water and biomass for energy; use of greenhouses and organic

farming for food; use of cooperatives for production and distribution; and development of settlement patterns appropriate for these uses.

Applied Human Ecology is the interdisciplinary effort of refitting human activities into an environment of finite resources and of returning government and economy to human scale.

The Center exists to encourage faculty members to share their research, ideas, information and points of view; and to help students design interdisciplinary programs of study. For more information contact Professor E.L. Gayden.

COURSE DESCRIPTIONS

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

Huxley courses and seminars are open to all students at Western. Students enrolled in other colleges at Western may apply credits earned at Huxley to their elective programs.

- 110 ENVIRONMENTAL STUDIES: A SCIENTIFIC APPROACH (3)
Prereq: one GUR natural science course at the college level. An introduction to environmental studies which stresses a scientific approach toward understanding the nature and scope of contemporary problems in man's environment. The course reflects application of physical, chemical, biological and geologic principles to define ecological change, both natural and man-made.
- 202 ENVIRONMENTAL STUDIES: A SOCIAL SCIENCE APPROACH (3)
An overview of the environmental macro-problem with emphasis on specific cases which reveal the complexity of environmental problems. Social, political, economic, humanistic and scientific issues in their environmental context. A basic introduction to environmental studies from the perspective of the social studies.
- 204 THE OCEANS: TOPICS IN MARINE SCIENCE (3)
Prereq: two quarters of natural science courses at the college level and Math 102. Selected topics of scientific inquiry that demonstrate the unique nature of the marine environment. Topics include waves, tides, origin of the ocean's salt and water, ocean and global climate, evolution of marine life, deep sea physiology, marine mammal intelligence and divisions of the marine environment.
- 301 ENVIRONMENTAL SYSTEMS (3)
Prereq: two quarters of general biology. General systems theory; principles of natural systems; eco-systems structure, function and management. An environmental studies core course.
- 302 ENVIRONMENTAL POLLUTION (4)
Prereq: Math 105; Chem 115 or 121; general biology course. An introduction to the problems of air and water pollution, pesticides, radiation, hazardous substances and noise. An environmental studies core course.
- 303 HUMAN ECOLOGY (4)
Prereq: Soc 101 or Anth 201. Study of human interactions with the natural system as mediated by the social group with its shared norms, values, knowledge and technology; the evolution of cultural systems and the increasing human-environmental relations and problems; possible institutional solutions to pressing human ecological problems. An environmental studies core course.
- 304 ENVIRONMENTAL POLLUTION AND CONTROL (4)
Prereq: differential/integral calculus or Chem 121/122, or passing grade on a qualifying exam. Principles of air and water pollution and pollution control, noise pollution control, hazardous and radioactive waste control. May fulfill requirement for Envr 302.
- 309 ENVIRONMENTAL STUDIES: COMPUTER APPLICATIONS (3)
Prereq: upper-division status; admission to Huxley College. Application of micro-computer programs with the objective of integrating data management, data analysis and reporting into a technical report. Other microcomputer programs used in environmental studies will be introduced.
- 321 OCEANOGRAPHY (4)
Prereq: introductory biology and chemistry course or permission of instructor. Principles of oceanography, with emphasis on a description of the marine environment as an entity. Physics, chemistry and biology of the ocean.
- 340 BIOMETRICS (5)
Prereq: Biol 121, 123, plus 10 credits from Biol 210, 211, 212, or permission of instructor. The design of biological experiments and appropriate statistical analysis of experimental data. Calculator required. Also listed as Biol 340.

- 352 PRINCIPLES OF NUTRITION (5)
Prereq: general biology course and Chem 251 or permission of instructor. Introduction to the discipline of food and nutrition and health. Includes dietary survey and application of nutrition principles to evaluation of individual diet.
- 358 INTRODUCTION TO ENVIRONMENTAL TOXICOLOGY (3)
Prereq: general biology course, general chemistry course; Envr 302; or permission of instructor. Introduction to principles and methods of evaluating chemicals in the environment. Included are discussions on methods for identifying toxic substances, testing effects of these substances in non-human and human systems, and studies of transport of chemicals in ecosystems. Not for students concentrating in toxicology.
- 361 WATER QUALITY LABORATORY (4)
Prereq: general chemistry course. Envr 301 and 302 (Envr 301 and 302 may be co-requisite). Basic theory and techniques of water quality analysis in the marine and freshwater environments, including nutrient analysis, dissolved oxygen and BOD, heavy metals, total and fecal coliforms. Techniques include spectroscopic analysis, titration, bacteriological assay, bioassay, and others.
- 365 ENERGY AND ENERGY RESOURCES (4)
Prereq: general physics course or general chemistry course; Envr 302; or permission of instructor. The study of the energy concept as it applies to the environment. Concepts of thermodynamics, entropy, chemical rates. Thermodynamics of evolution, energy flow in biological systems. Energy flow in primitive and industrial societies, energy legislation, rate structures, methods of power generation.
- 371 ENVIRONMENTAL EDUCATION (4)
An introduction to environmental education and a review of current thinking and practices in this dimension of education. Focus on goals and principles, content, settings, methods and processes of environmental education through reading, discussion and project work.
- 372 THE ENVIRONMENTAL EDUCATION CURRICULUM (4)
Prereq: Envr 371. Critical review of curricula that have been developed. The need for environmental education is assessed, learning objectives are examined and strategies for attaining these objectives studied. The qualities of the ideal environmental education curriculum are identified by students, based on their research into the matter.
- 376 THE HISTORY OF CONSERVATION IN AMERICA (4)
Prereq: junior status or permission of instructor. A review of the history of conservation in America from the colonial period to the present. Emphasis is on the development of ideas about land and natural resources in America—how they should be allocated, valued and used. What currents of thought and action led to the concept "conservation" in the late 19th century? How did this concept develop and appear in government policy, and how did policy and bureaucracy involving this concept evolve? These questions are explored through the writings of the principals involved.
- 377 ALTERNATIVE FUTURES (4)
Prereq: Envr 303 or two 200-level courses in the social sciences. Introduction to the growing field of future studies, utilizing the framework of human ecology to evaluate various projections and scenarios in future studies literature; exploration of the different ways of attempting to foresee the future, scientifically and imaginatively; the role of the individual in bringing about some desirable future. Offered alternate years.
- 401 ENVIRONMENTAL ETHICS (3)
Prereq: Phil 112; Eng 201 or 301; 300-level environmental studies core courses. An examination of philosophical dimensions of man-environment relations with emphasis upon ethical problems. Several contrasting views of man are considered and the influence of these philosophical positions upon environmental behavior examined. An attempt made to identify an environmental ethic which might be operable in modern society. An environmental studies core course
- 402 ENVIRONMENTAL DECISION-MAKING (4)
Prereq: completion of social sciences GUR, to include Econ 206 and one of the following: Mgmt 271; Fair 211; Pol Sci 101, 250, or 311; 300-level environmental studies core courses. An interdisciplinary investigation of the political, economic and technical forces that shape decisions on environmental issues; development of a typology of decision-making and its application through case studies; strategies for effecting improved environmental decision-making. An environmental studies core course.

410 ENVIRONMENTAL PROBLEMS IN AGRICULTURE (3)

Prereq: senior status. Environmental problems in U.S. agriculture have their roots in the technologies and governmental policies applied to agriculture as an economic enterprise. Impacts of these problems may prove serious for future U.S. and world food supplies. Consideration given to alternative techniques and policies to promote energy, soil and water conservation for a sustainable agriculture. Offered alternate years.

411 ALTERNATIVE ENERGY SOURCES AND SYSTEMS (3)

Prereq: senior status. Recommended preparation: general physics, general chemistry. Hux 365, Physics 207, 399. Energy as a means to social ends; identification of characteristics of alternative (non-conventional) energy sources and technologies and their applications for industrial, transportation, agricultural and domestic uses; alternative energy, appropriate technology and the decentralist alternative. Offered alternate years.

412 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN I (4)

Prereq: Envr 303 or Tech 313; or permission of instructor. Design of human settlements appropriate to post-industrial society living under conditions of energy scarcity/costliness. Orienting houses and development patterns for solar access; low-energy transportation systems; opportunities for urban agriculture and increased natural amenities. A studio course.

413 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN II (4)

Prereq: Envr 303, 377, 411 or permission of instructor. Design of human settlements that are compatible and integral with the rural environment; design of solar-tempered dwellings and other structures, the use of alternative energy sources and waste disposal systems, agricultural potential of the land, and the social structure of the rural subsistence community. A studio course.

415 ENVIRONMENTAL DESIGN: PROCESSES AND PROBLEMS (4)

Prereq: senior status. Environmental design as a process of rational problem-solving and bringing about mutual adjustment of cultural and natural systems; design as a synthesis of conceptions of the environment and of society, the values and processes of society and the application of ethical criteria.

416 HUMAN POPULATION AND THE ENVIRONMENT (3)

Prereq: Envr 301 and 303. A study of the concepts of unlimited and limited population growth, carrying capacity and the upper limits of world population. Historical and future trends of human populations. Effects of human populations on the environment now and in the future, including food production, shelter, energy and mineral resources, technical and industrial impacts, population control, geographical areas with particular population pressure.

418 SOCIAL IMPACT ASSESSMENT (4)

Prereq: Soc 210. Soc 215 recommended. An interdisciplinary approach to the effects of technology, industry, commerce and public and private policy on the lives of human beings. Social science techniques are used to assess and evaluate problems, issues and strategies. Case studies are used to illustrate central issues. Emphasis is on environmental legislation, policy and public involvement.

420 POLITICS, ADMINISTRATION AND ENVIRONMENT (4)

Prereq: Envr 202 or 303; Pol Sci 101 or 250. History of environmental problems and their cause. The administrative and political responses to them. Contemporary difficulties in formulating and applying environmental policy. Political and administrative changes needed to meet the environmental challenge. Offered alternate years. Also offered as Pol Sci 420.

421a FISHERIES ECOLOGY AND MANAGEMENT (3)

Prereq: one year of biology; course in oceanography or limnology. Course in ecology recommended. Introduction to the management of fisheries with a view toward maximum sustained yield. Review of external dimensions of aquatic ecology, fisheries biology and the processes of human constraint relative to these resources. Commercial fisheries, sport fisheries, freshwater fisheries and aquaculture will be examined.

421b FISHERIES MANAGEMENT LABORATORY (2)

Prereq: Envr 421a or concurrent. Field and laboratory experience in typical fisheries management techniques. Especially directed toward marine and freshwater sampling, population identification and quantification, and estimation of management parameters.

422 ESTUARIES (5)

Prereq: Biol 325, introductory chemistry course, upper-division status. Ecology and analysis of estuaries with emphasis on the physical, chemical and biological factors that affect productivity and function. Human utilization, impact and management. Laboratory and field studies of estuary structure and function. Offered at Sundquist Laboratory, Shannon Point.

429 STREAM ECOLOGY (5)

Prereq: Envr 301 or Biol 325; Envr 361 and Geol 472 recommended. Ecology and analysis of streams with emphasis on physical and chemical properties in relation to biotic communities. Processing of organic matter by stream invertebrates and fish communities. Perturbation by high organic loading or chemical pollutants and recovery processes. Reservoirs as hybrid systems. Field and laboratory exercises in sampling and analysis of stream ecosystems.

430a LIMNOLOGY (3)

Prereq: Envr 301 or Biol 325. Ecology and analysis of lakes and standing water bodies, with emphasis on the physical, chemical and biological factors that determine biological productivity. Human impacts on lakes. Lecture may be taken without laboratory (Envr 430b).

430b LIMNOLOGY LABORATORY (2)

Prereq: Envr 361; concurrent with Envr 430a. Laboratory and field studies of the physical, chemical and biological processes in lakes.

431a POPULATION BIOLOGY (3)

Prereq: Biol 321, 325; Math 105. Introduction to theory and application of population genetics and population biology.

431b POPULATION BIOLOGY LABORATORY (2)

Prereq: Envr 431a concurrently. Companion laboratory for 431a.

435 LANDSCAPE ECOLOGY (4)

Prereq: Biol 325. The study of landscape patterns across temporal and spatial scales with emphasis on their organization, functional interactions and dynamics. Application of landscape principles to land management problems.

436 ENVIRONMENTAL IMPACT ASSESSMENT (5)

Prereq: senior status, completion of analysis course work within majors or permission of instructor. Objective evaluation and formal description of a real natural system or geographic region. Class preparation of a unified document summarizing physical, biological and social aspects of a study area. Review of pertinent laws and EIS documents.

438 COASTAL ECOSYSTEMS MANAGEMENT (4)

Prereq: Envr 301; Envr 422 recommended. Coastal zone management questions in the coastal ocean. Dredge and fill problems. Competing uses in estuaries, marine and port development, fisheries management, aquaculture.

439 CONSERVATION OF BIOLOGICAL DIVERSITY (4)

Prereq: Biol 321; Envr 431a or equivalent. Examination of evolutionary, biological, social and ethical questions concerning conservation and protection of endangered and threatened species. Applications of genetics, ecology and behavior to conservation and preservation strategies. Conflicts arising from multiple-use management of natural resources.

440 CONFLICT RESOLUTION OF CURRENT ENVIRONMENTAL ISSUES (4)

Prereq: Envr 302 or permission of instructor; Envr 401 recommended. Introduction to mediation and conflict resolution techniques as tools in environmental decision-making and for developing environmental policy. Evaluation of the role of conflict resolution in selected environmental case studies. Development of effective presentation techniques.

446 AQUATIC CHEMISTRY (4)

Prereq: Chem 122. The study of aquatic systems: precipitation, surface and groundwaters, chemical equilibria, free energy considerations, oxidation-reduction reactions, aquatic complexes, trace contaminants in water.

450 ENVIRONMENTAL PHYSIOLOGY AND BIOCHEMISTRY (4)

Prereq: Envr 302 and Chem 371 or permission of instructor. Physiological and biochemical effects of common pollutants found in our environment. Mechanism of action of individual pollutants, including cellular damage at molecular level.

451 ENVIRONMENTAL BIOCHEMISTRY LABORATORY (2)

Prereq: Chem 371, Envr 450 or equivalents. Experimental techniques involved in the analysis of various pollutants in tissues, study of biochemical effects of selected pollutants on living systems under laboratory conditions.

452 NUTRITIONAL BIOCHEMISTRY (4)

Prereq: Envr 352 and Chem 371. Chemistry and biochemical role of essential nutrients and their interrelationship; intermediary metabolism of nutrients.

- 453 **FOOD CHEMISTRY LABORATORY (4)**
 Prereq: Chem 251 and Envr 352, or equivalents. Basic laboratory techniques used in the analysis of various nutrients in food.
- 454 **NUTRITION AND HEALTH (4)**
 Prereq: Envr 352 or equivalent. Current state of knowledge concerning nutrition and its relationship to human health. Reviews scientific evidence and stresses the relationship between dietary factors and chronic disease risk. Issues in nutrition such as diet and heart disease, hypertension, diabetes, obesity, cancer, skeletal diseases and dental diseases.
- 456 **ENVIRONMENTAL TOXICOLOGY (3)**
 Prereq: Biol 349; Chem 353, 371; Envr 302 or permission of instructor. The toxicology of exposure to environmental contaminants in human and non-human biological systems will be addressed at various levels of organization, including organismic, organ, tissue, cell, sub-cellular and molecular levels.
- 457 **ENVIRONMENTAL TOXICOLOGY LABORATORY (3)**
 Prereq: Envr 456 or permission of instructor. Laboratory methodology in toxicology. Protocols and procedures for evaluating the toxicity of chemicals and environmental samples using a variety of organisms and end points. Experimental design and treatment of toxicological data.
- 459 **AQUATIC TOXICOLOGY (3)**
 Prereq: Envr 302, 340 and 456, or permission of instructor. Envr 321 or 430 or Geol 472 recommended. Effects of toxic compounds on aquatic organisms. Acute and chronic responses of organisms to aquatic toxicants, and current literature on population, community and ecosystem aquatic toxicology. Offered in the same quarter as advanced Aquatic Toxicology Laboratory (Envr 560), seniors may enroll in the laboratory with permission of the Graduate School and instructor.
- 462 **AIR POLLUTION (4)**
 Prereq: Envr 302; general chemistry course. Types of air pollutants, their measurement and effects. Removal of air pollutants from gas streams. Air pollution meteorology and dispersion. Air pollution laws and standards. Air resources management.
- 463 **PACIFIC NORTHWEST ENERGY POLICY (3)**
 Prereq: Envr 365. Primary emphasis is on analyzing the development of energy policy in the Pacific Northwest. Includes study of the policy development roles of the Bonneville Power Administration, the electric power companies, the Corps of Engineers, the Northwest Power Planning Council and state governments. Includes energy policies resulting from the activities of these groups and review of national energy policies.
- 464 **UNITED STATES ENVIRONMENTAL POLICY (4)**
 Prereq: Pol Sci 101 or 250 or permission of instructor. Introduces students to United States national institutions, legislation, administrative procedures and regulations, with emphasis on explanations of processes that shape environmental policies. Some tools of policy analysis are also introduced.
- 465 **COMPARATIVE AND INTERNATIONAL ENVIRONMENTAL POLICIES (4)**
 Prereq: Envr 303 or 464 or permission of instructor. A systematic comparison of the environmental policies of a sample of developed and lesser-developed nations such as Canada, Germany, Japan, Brazil and Mexico. The formations, applications, strengths and weaknesses of the policies will be analyzed and discussed.
- 466 **MODELING ALTERNATIVE FUTURES (3)**
 Prereq: Envr 377. Begins with a description of the various techniques for analyzing the future, such as: trend analysis, scenarios, the Delphi method, modeling and simulation, and strategic planning. Students use trend analysis in a forecasting project to determine the future in 2010. A scenario or a future in the middle 21st century also is planned.
- 467 **POLITICS, TRANSFORMATION AND ENVIRONMENT (4)**
 Prereq: Envr 202 or permission of instructor. Incompatibility between the growth-oriented goals of contemporary political cultures and environmentally-derived "steady-state" imperatives. The politics of transformation and value change. Also offered as Pol Sci 467.
- 470 **THE HISTORY OF THE CONCEPT OF NATURE: PREHISTORY-300 A.D. (3)**
 Prereq: Envr 301 or 303, or permission of instructor. Historical ideas about nature and their relationships to contemporary concepts of nature; discovery, development and control of information about nature. Covers the period from pre-history through the Roman Empire.

- 471 THE HISTORY OF THE CONCEPT OF NATURE: 1200-1800 A.D. (3)
Prereq: Envr 302 or 303; or permission of instructor. Envr 470 recommended. Various concepts of nature during the period 1200-1800 including discussion of the Copernican Revolution, changing from the earth-centered universe and the subsequent impact on society; the artistic representation of nature and how it changed over this period; the Enlightenment and debate over nature as ennobler or debaser of human beings.
- 472 THE HISTORY OF THE CONCEPT OF NATURE: 1800-PRESENT (3)
Prereq: Envr 302 or 303; or permission of instructor. Envr 471 recommended. Various concepts of nature during the period 1800 to the present including discussion of the debate over the geologic record and evolution; the artistic representation of nature; the recent changes in the scientific description of nature; and contemporary concepts of nature.
- 473 ENVIRONMENTAL INTERPRETATION (4)
Prereq: Envr 371 or permission of instructor. An overview of the field of environmental interpretation and how it relates to environmental education. Focus is on gaining an understanding of the basic elements of the interpretive process and on becoming familiar with interpretive approaches and methods. Design and technical components are introduced.
- 474 OUTDOOR EDUCATION (4)
Prereq: Envr 371 or permission of instructor; concurrent enrollment in Envr 475, 476 and 477. Classroom and field study of outdoor education, an approach to environmental education. Traditional outdoor learning methods are reviewed. New developments and programs such as Outward Bound and adaptations thereof are reviewed. Field experience in various outdoor settings is included.
- 475 ENVIRONMENTAL EDUCATION: ADVENTURE PROGRAMMING AND LEADERSHIP (4)
Prereq: Envr 371 or permission of instructor; concurrent enrollment in Envr 474, 476 and 477. Overview of philosophy, history and components of adventure education. Analysis of how adventure education has evolved as a means for individual and group development and for enrichment of educational processes. Theory and practice of leadership in adventure and wilderness education. Leadership styles and their application in adventure and wilderness education situations.
- 476 EXPERIENTIAL LEARNING IN ENVIRONMENTAL EDUCATION (4)
Prereq: Envr 371 or permission of instructor; concurrent enrollment in Envr 474, 475 and 477. Potential of experiential learning for environmental education. Experiential learning theory and its application to specific settings. Simulation gaming, role playing, awareness exercises. Problems of evaluation of this type of learning are given special consideration. Fieldwork required.
- 477 THE WRITINGS OF AMERICAN NATURALISTS (3)
Prereq: Envr 371 or permission of instructor; concurrent enrollment in Envr 474, 475 and 476. There is a tradition of writing about the outdoors in American literature. This course describes and explores that tradition. The writings of Thoreau, Burroughs, Muir, Leopold, Carson, Eiseley, Borland, Beston and others are read and discussed.
- 478 TOPICS IN ENVIRONMENTAL STUDIES (Variable Credit)
Environmental problems of northwest Washington and related topics. A survey course that may include impact assessment, local and regional planning, pollution problems, problems of the environmental classroom. *This course is available only off-campus under the aegis of Continuing Education. It is not available to Huxley majors. Repeatable for credit.*
- 479 ENVIRONMENTAL INTERPRETATION METHODS (4)
Prereq: Envr 473 or permission of instructor. Opportunity to develop skills in designing and producing interpretive media. Familiarity with and application of basic techniques, tools and equipment are the primary focus. Student projects result in the development of such products as audio-visual presentations, displays and brochures.
- 480 WRITING AND EDITING THE PLANET (2)
Prereq: Journ 104 or permission of the instructor. Practical involvement in writing, editing, photography, illustration, design and production of a student environmental magazine issued once each quarter.
- 481 ENVIRONMENTAL JOURNALISM (4)
Prereq: Journ 104; Envr 110 or 202; or permission of instructor. Goal is to equip students to report and write clearly, critically and constructively on environmental and natural resource issues. Emphasis on writing articles for publication. Involves reading, discussion and much research and writing.

482 ADVANCED ENVIRONMENTAL WRITING (4)

Prereq: at least two courses in journalism and/or writing, or permission of instructor. Emphasis on writing for popular publications, with extensive exercise in outlines, query letters, leads and complete drafts, with critiques and rewrite.

490 ENVIRONMENTAL RISK MANAGEMENT (4)

Prereq: Econ 206 or permission of instructor. Introduces students to risk analysis methods, and processes that shape risk management decisions in the public and private sectors. Focuses on environmental problems and health hazards, although parallels to other risk contexts are discussed.

491 MULTINATIONAL CORPORATIONS AND GLOBAL ECOLOGY (4)

Prereq: Econ 206 or 207. The character, functions and values of multinational corporations. Assessment of the impacts of such companies on Third World economies and environments and the economy of the United States (labor force, capital flows, resource allocation). Analysis of existing and proposed systems of corporate regulation in the international marketplace.

492 EFFECTS OF GLOBAL CLIMATE CHANGE (3)

Prereq: Envr 301 or Biol 325; Envr 302 or Geol 214; or permission of instructor. Magnitude and extent of climatic change and its probable impact on natural ecosystems, resources (food, water and energy) and society. Possible actions which could minimize the impacts are evaluated.

493 SENIOR SEMINAR: ECONOMICS, THE ENVIRONMENT AND NATURAL RESOURCES (4)

Prereq: senior status in the Environmental Studies/Economics combined major. Discussion and analysis of selected issues in the economics of the environment and natural resources. Also offered as Econ 493

498a SENIOR THESIS (10-15)

Prereq: permission of instructor. A special project carried out under the supervision of a faculty adviser and documented in thesis form according to guidelines supplied by the College. May reflect a single study topic or be part of a major investigation which may take the form of fieldwork, or laboratory, library or community research.

498b INTERNSHIP (10-15)

Prereq: permission of instructor. Supervised work experience relevant to environmental studies and appropriate to the student's program. The one- to three-month experience is documented by a written report prepared according to guidelines supplied by the College. S/U grading.

498c SENIOR PROJECT (10-15)

Prereq: permission of instructor. A special project carried out under supervision of a faculty adviser and documented in non-thesis form suitable to the project. May take the form of some environmental or community activity having either a physical or programmatic result.

499a SEMINAR (1)

Prereq: senior status or permission of instructor. Student-faculty interaction on topics of general interest. Repeatable for credit. S/U grading.

499b SEMINAR (2)

Prereq: senior status or permission of instructor. Student-faculty interaction. Repeatable for credit. S/U grading.

499c SEMINAR (1)

Prereq: senior status or permission of instructor. Student-faculty interaction on topics of general interest. Repeatable for credit.

499d SEMINAR (2)

Prereq: senior status or permission of instructor. Student-faculty interaction. Repeatable for credit.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

The following courses are offered for graduate credit for persons enrolled in the Huxley College M.S. in environmental science program (all options); the M.A. in political science (environmental studies) program; or the M.Ed. program in natural science/science education (environmental education).

501 CURRENT RESEARCH AND RESOURCES IN ENVIRONMENTAL SCIENCE (1-2)

Prereq: graduate status. Selected topics in environmental science and discussion of available resources, equipment and resource people at WWU. Repeatable for credit. S/U grading.

- 503 **ADVANCED HUMAN ECOLOGY (3)**
Prereq: graduate status; previous undergraduate coursework in sociology, anthropology, psychology and/or geography. The study of human-environmental interactions based on an understanding of the unique psycho-physiology of the human species, and the evolution of human social institutions, technology and scientific understanding of the natural environment, followed by an assessment of the need for institutional changes to cope with the increasing scope of environmental problems.
- 504 **ENVIRONMENTAL THEORY AND SOCIAL ANALYSIS (3)**
Prereq: graduate status; Pol Sci 501. Cultural, political, and economic origins of environmental problems. Psychological, philosophical and political changes needed for their solution.
- 510 **QUANTITATIVE RISK ASSESSMENT (4)**
Prereq: Envr 302; Envr 450 or 456, (or equivalents); biostatistics or other statistics course. Principles and methods of quantitative risk assessment, application of risk assessment to environmental problems, analysis of environmental data.
- 522 **ESTUARINE ECOLOGY (5)**
Prereq: graduate status; course in general ecology, oceanography or limnology. Structure and function of estuarine ecosystems with emphasis on the effect of physical and chemical factors on biological systems. Current management issues resulting from human impacts of estuaries.
- 524 **ENVIRONMENTAL POLITICS AND POLICY (3)**
Survey of the field of environmental politics and policy. Examination of how political scientists have addressed environmental issues by focusing on questions raised, methods used and conclusions reached. Approach will be comparative in examining research on different countries and in examining environmental political research as it has addressed issues related to race, class and gender. Also offered as Pol Sci 524
- 529 **ADVANCED STREAM ECOLOGY (5)**
Prereq: Envr 430 or equivalent, or permission of instructor. Ecology and analysis of streams with emphasis on physical and chemical properties in relation to biotic communities. Offered concurrently with Envr 429. Graduate students must enroll in graduate laboratory section.
- 530a **ADVANCED LIMNOLOGY (3)**
Prereq: graduate status; at least 10 credits of general chemistry; concurrent enrollment with Envr 530b. Advanced study of the physical, chemical and biological properties of lakes.
- 530b **ADVANCED LIMNOLOGY LAB (2)**
Prereq: graduate status; at least 10 credits of general chemistry; concurrent enrollment with Envr 530a. Field and laboratory analysis of the physical, chemical and biological processes in lakes.
- 531 **STATISTICAL ECOLOGY (4)**
Prereq: Math 341, 342 or Envr 340; at least 10 credits of ecology. Theory and principles of experimental design, quantitative sampling and data analysis. Includes random and systematic sampling, stratified random sampling, sample unit size, estimation of sample number, proportional allocation and transformation. Also includes application of ANOVA to experimental design and data analysis, and application of multivariate statistics including clustering and ordination.
- 532 **MARINE SAMPLING TECHNIQUES (2)**
Prereq: Biol 325; Envr/Biol 340; graduate-level statistical methods course. Limnology or oceanography course recommended. Field methods in marine ecosystems sampling and surveying. Emphasis on methods used in population and community studies. Applicable to freshwater and estuarine systems.
- 533 **COASTAL OCEANOGRAPHY PRACTICUM (4)**
Prereq: one year of oceanography, limnology or estuarine course work. Envr 422 or 438 recommended. Practicum in the evaluation of documentation of a coastal project proposal in the manner of an agency study or oceanographic consultant report.
- 534 **PELAGIC ECOLOGY (4)**
Prereq: upper-division oceanography (lecture and lab course work); Biol 325; graduate-level statistical methods. Envr 421a,b or Biol 407 recommended. Theoretical and applied topics in the evaluation of complex life cycles, migration and trophic ecology of zooplankton and free-swimming marine species.
- 535 **SYSTEMATICS OF FRESHWATER COMMUNITIES (5)**
Prereq: Envr 529 or 530a,b or equivalent. Study of the structure of major freshwater communities. Emphasizes field collection and taxonomic identification of major freshwater organisms.

- 536 **ENVIRONMENTAL IMPACT ASSESSMENT PRACTICUM (4)**
 Prereq: graduate status. Preparation of an objective assessment description of a real natural area including the search for public documentation, evaluation of coverage and specific new analyses. Coordinating role in task group data assembly and editorial review of draft project summaries. Experience directly related to professional responsibilities in the environmental field. Review of assessment utilization in the EIS format and of significant legislation.
- 544 **ADVANCED ECOLOGICAL METHODS (4)**
 Prereq: Biol 325, Envr/Biol 340, or equivalents. Covers advanced ecological methods for the study of plant and animal populations and communities. Emphasis on statistical and quantitative approaches. Lectures and independent group field projects.
- 546a **ADVANCED WATER CHEMISTRY (3)**
 Prereq: Chem 123; Chem 251 or 351; Envr 466; or permission of instructor. Study of contemporary research problems through examination of contemporary environmental chemistry literature, data, methods, techniques and instrumentation. Lecture may be taken independent from the lab.
- 546b **ADVANCED WATER CHEMISTRY LABORATORY (2)**
 Prereq: permission of instructor. Laboratory experimentation at an advanced level to learn modern analytical methods of environmental chemistry. Lab may be taken independent from the lecture.
- 550 **ENVIRONMENTAL PHYSIOLOGY AND BIOCHEMISTRY (4)**
 Prereq: Envr 302, 352, and Chem 371, or permission of instructor. Physiological and biochemical effects of major pollutants found in the environment; influence of various nutrients on pollutant toxicity.
- 551 **ENVIRONMENTAL BIOCHEMISTRY LABORATORY (2)**
 Prereq: Chem 371 or equivalent. Experimental techniques involved in the analysis of various pollutants in tissues; study of biochemical effects of several pollutants on living systems under laboratory conditions.
- 556 **ADVANCED ENVIRONMENTAL TOXICOLOGY (3)**
 Prereq: general biology course; Biol 349; Chem 353, 371; Envr 302 and Envr 358 or permission of instructor. The toxicology of exposure to environmental contaminants in human and non-human biological systems at various levels of organization, including organismic, organ, tissue, cell, subcellular and molecular levels.
- 557 **ADVANCED ENVIRONMENTAL TOXICOLOGY LABORATORY (3)**
 Prereq: Envr 556 or permission of instructor. Laboratory methodology in toxicology. Protocols and procedures for evaluating the toxicity of chemicals and environmental samples using a variety of organisms and end points. Experimental design and treatment of toxicological data.
- 559 **AQUATIC TOXICOLOGY (3)**
 Prereq: Envr 550 or 556 or equivalent. Evaluation of the effects of toxic compounds on aquatic organisms. Acute and chronic responses to aquatic toxicants. Current trends in organismal, community and ecosystem aquatic toxicology. Offered concurrently with Envr 560; lecture may be taken without laboratory (Envr 560).
- 560 **AQUATIC TOXICOLOGY LABORATORY (3)**
 Prereq: Envr 550 or 556 or equivalent. Concurrent enrollment with Envr 559. Evaluation of the effects of toxic compounds through the use of aquatic bioassays. Use of bioassays in biological monitoring, bioassay systems design, species selection and interpretation of bioassay results.
- 562 **ADVANCED AIR POLLUTION (4)**
 Prereq: graduate status, Envr 302, general chemistry, two quarters of calculus. Types of air pollutants, their measurements and effects. Removal of air pollutants from gas streams. Air pollution meteorology and dispersion. Air pollution laws and standards. Air resources management.
- 571 **ADVANCED ENVIRONMENTAL EDUCATION (4)**
 Prereq: admission to M.Ed. in natural science/science education (environmental education). In-depth review of the field of environmental education, examining its fundamental principles and processes. Review of literature revealing the major questions and issues facing environmental educators in both formal and informal settings. Presentation of challenges involved in educating for environmental literacy.



598 RESEARCH PROJECT (6)

Prereq: completion of 15 credits at 500-level toward M.Ed. in natural science/science education. Research in the field of environmental education for students pursuing the non-thesis option of the M.Ed. natural science/science education program (environmental education specialization)

599 GRADUATE ENVIRONMENTAL SCIENCE SEMINAR (2)

Prereq: graduate status in environmental science. Selected topics across the spectrum of specialization within environmental science (e.g., toxicology, watershed studies, applied ecology, etc.). S/U grading.

690a THESIS RESEARCH (1-12)

Prereq: permission of the thesis advisory committee. Thesis research in environmental science under faculty direction; an integral part of the M.S. in environmental science.

690b FIELD PROJECT (6-12)

Prereq: completion of 15 credits at the 500 level and approval of student's committee in the M.Ed. natural science/science education (environmental education) program. May take various forms: development of an educational program; preparation of curriculum; production of educational materials. May be done off campus between periods of residence work.

WOODRING COLLEGE OF EDUCATION

Dr. Lawrence W. Marrs, Dean

The Woodring College of Education is responsible for developing and implementing those professional education programs which lead to teacher certification, credentialing of school administrators, and professional training of leaders in Human Resources Development. It serves as a clearing house for the exchange of information and as a coordinating agency for programs at both the undergraduate and graduate levels. The Dean of the Woodring College of Education is responsible for coordinating programs which involve a wide variety of departments throughout the University. The Woodring College of Education faculty is comprised of those persons who teach professional education courses.

The Department of Educational Curriculum and Instruction is one of two major components of the Woodring College of Education and is responsible for developing and implementing teacher education programs which lead to Washington State Certification. The Department of Educational Curriculum and Instruction offers both undergraduate and graduate course work in elementary, secondary, K-12 and special education.

The Department of Educational Administration and Foundations is comprised of those programs which extend and complement the experiences offered in teacher education programs. This department offers programs in Educational Administration, Foundations of Education, Educational Technology and Human Resources Development.

Professional Education Programs are developed and reviewed with the assistance of the Professional Education Advisory Board with representa-

tives from cooperating school districts and professional associations.

All programs were under review/revision at the time this catalog was being prepared. Students should consult with an adviser in the appropriate area of the Woodring College of Education for more information regarding curricula, admissions requirements and other important factors. Current program office materials will be final in these matters.

Academic Programs Leading to Undergraduate and Graduate Degrees

- See departmental listings for academic area
- programs BA/Ed, M/Ed
- Special Education BA/Ed, M/Ed
- Human Services BA
- Education (various fields) M/Ed
- Graduate programs leading to certification in School Administration and to Educational Staff Associate Certification in School Counseling, and Speech Pathology & Audiology M/Ed, MA

Teacher Certification Requirements

See the Department of Educational Curriculum and Instruction section of this catalog.

Department Chairs

- Dr. Leslie Blackwell Educational Administration & Foundations
- Dr. Suzanne L. Krogh Educational Curriculum & Instruction

Overview of the Woodring College of Education

- Administrative Services
- Certification

Woodring College of Education

- Initial Teaching Certification
- Continuing/Professional Certification
- Principal Certification
- Center for Regional Services
 - Field Services for Education
 - Advancement-Alumni/Development
- Center for Interactive Multimedia for Education and Training

Educational Administration and Foundations

Chair: Dr. Leslie Blackwell

Programs Offered:

- Educational Foundations
- School Administration
- Human Resources Development
 - Human Services
- Instructional Technology
 - Computer Education
 - Library Sciences/Learning Resources

Educational Curriculum and Instruction

Chair: Dr. Suzanne L. Krogh

Programs Offered:

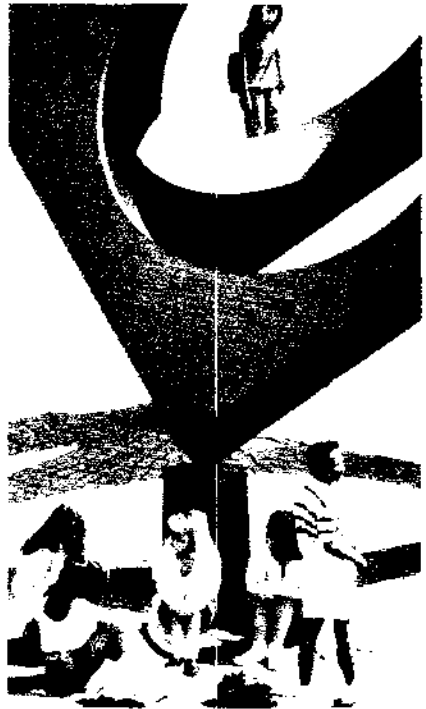
- Secondary Education
 - Professional Program
- Elementary Education
 - Professional Program
- K-12 Education Professional Program
- Special Education Professional Program
 - Special Education (K-12)
 - Special Education (K-12) with Secondary Education
 - Special Education (K-12) with Elementary Education

Administrative Services:

- Admissions and Advisement
- Office of Field Experiences

Interdisciplinary Programs

The following programs are listed within the College of Education's Department of Educational Administration and Foundations or Department of Educational Curriculum and Instruction:



- Interdisciplinary Child Development Major
- Early Childhood Special Education Major
- Early Childhood Minor
- Reading Minor
- Learning Resources Minor (see Library Science in Department of Educational Administration and Foundations)

Graduate Programs in Education

The two departments of the Woodring College of Education offer various master's degrees. There are graduate programs within the Department of Educational Curriculum and Instruction which include initial teacher certification and those which are designed for practicing teachers. Within the Department of Educational Administration and Foundations, graduate programs are offered in school administration, adult education administration and student personnel administration. For a complete description of the programs, see the Graduate School section of this catalog.

Departments, Courses & Programs

Courses listed in this General Catalog constitute a record of the total academic program of the University. Except for unforeseen scheduling and personnel circumstances, it is expected that each course will be offered during the period of this

catalog. For an exact scheduling of courses at Western, students should consult the annual *Timetable of Classes*, the Summer Bulletin and the University Extended Programs' bulletins.



Educational Administration & Foundations

EDUCATIONAL ADMINISTRATION & FOUNDATIONS FACULTY

- THOMAS BILLINGS (1964) Professor. BS, PhD, University of Oregon.
- LESLIE BLACKWELL (1968) Associate Professor. BA, Washington State University; MEd, EdD, University of Washington.
- LYNN DAY (1988) Lecturer. BS, MA, University of Minnesota; PhD, Michigan State University.
- FLORA FENNIMORE (1969) Professor. BS, Mt. Angel College; MA, EdD, Washington State University
- PAUL FORD (1970) Professor. AB, Dartmouth College; MEd, EdD, Harvard University.
- BURTON L. GROVER (1969) Associate Professor. BS, MA, PhD, University of Minnesota.
- ANTHONY JONGEJAN (1983) Associate Professor. BA, MS, Western Washington University; PhD, University of Oregon.
- LORRAINE KASPRISIN (1979) Professor. BSEd, MA, The College of the City of New York; MPhil, PhD, Teachers College, Columbia University.
- ROBERT H. KIM (1971) Professor. BA, Hanguk University for Foreign Studies; BA, MA, EdD, George Peabody College.
- ROBERT LAWSON (1985) Lecturer. BA, MEd, Western Washington University.
- LAWRENCE W. MARRS (1984) Professor and Dean, Woodring College of Education. BS, MS, University of Utah; PhD, University of Texas.
- R. HUNTER NICKELL (1985) Lecturer. BA, MEd, Western Washington University.
- JANE ANN PULLEN (1986) Lecturer. BA, University of California, MA, Coddard College.
- FRANK ROBERTS (1990) Associate Professor. BA, Salem State College (Mass.); MEd, PhD, Pennsylvania State University.
- SY SCHWARTZ (1967) Associate Professor. BS, MS, EdD, Wayne State University.
- WILMA SMITH (1990) Visiting Professor. BA in Ed., Central Washington University; MEd, Seattle Pacific University; EdD, University of Washington.
- JOSEPH E. TRIMBLE (1978) Professor. BA, Waynesburg College; MA, University of New Hampshire; PhD, University of Oklahoma.
- JOHN F. UTENDALE (1972) Professor. BPE, University of Alberta; MEd, Eastern Washington State College; EdD, Washington State University.
- PHILIP B. VANDER VELDE (1967) Associate Professor. BA, Calvin College; MA, PhD, Michigan State University.

LINDA ZURFLUH (1984) Professor. BA, MA, Pacific Lutheran University; EdD, University of Washington.

OVERVIEW

The Department of Educational Administration and Foundations consists of four program areas as described below. The programs help prepare individuals for administrative-leadership roles in K-12 educational systems, higher education student personnel work, adult educational programming and in human service agencies. The programs also extend and complement the educational experiences offered to teacher education program certification students. Degrees granted are:

- Bachelor of Arts in Human Services
- Master of Education in Adult Education Administration
- Master of Education in Student Personnel Administration in Higher Education
- Master of Education in School Administration (Elementary, Secondary, Learning Resources)
 - Principal's (Initial or Continuing) Certificates
 - Certificate of Advanced Study (CAS)

Computer Competence: Students admitted to programs in the Department of Educational Administration and Foundations are required to possess minimum computers-in-education competence prior to completion of their program and, when applicable, prior to being recommended for certification. Procedures for demonstrating or developing competence are available from the main departmental office (Miller Hall 204).

EDUCATIONAL FOUNDATIONS

Program Area Head:

Dr. Lorraine Kasprisin

Office: Miller Hall 321

Telephone: (206) 676-3871

The Foundations program provides a sequence of transition courses between a student's general education at Western and the areas of professional specialization in the Woodring College of Education. Major purposes are: (1) to enhance a student's general education; (2) to synthesize and consolidate a student's general knowledge and focus it on the problems and challenges of the teaching profession; (3) to provide the necessary depth and breadth prerequisite to teaching in any of the several areas of specialization; (4) to acquaint the student with the moral, ethical and political challenges faced by the profession. The program area office is located in Miller Hall 324.

SCHOOL ADMINISTRATION

Program Area Head: Dr. Paul Ford

Office: Miller Hall 204C

Telephone: (206) 647-4883

The School Administration program is designed to prepare elementary and secondary school teachers to assume the leadership role of the principal or vice principal. Upon successful completion of the program, candidates are recommended for the master's degree and/or principal certification. The program emphasizes curricular areas in school finance, school law, staff/community relations and collective bargaining. The requirements for principal certification include a master's degree, Washington State teaching certificate and at least two consecutive years of certificated teaching experience in one district on at least a half-time basis; the service must cover the entire school year. Candidates are directed to the Graduate

School section of this catalog for more information; the program area office is located in Miller Hall 204.

HUMAN RESOURCES DEVELOPMENT

Program Area Head:

Dr. John Utendale

Office: Miller Hall 314A

Telephone: (206) 676-2977

This area consists of three programs: Human Services Program, Adult Education Administration, and Student Personnel Administration in Higher Education.

They represent a recognition of several broad areas of adult education and life-long learning that go beyond traditional elementary and secondary education, and which take place in the numerous other human service institutions in the community. The program is organized to prepare both entry-level and advanced practitioners who would administer, counsel or teach in these institutions. A listing of types of institutions is lengthy, but would include colleges and universities, social and health service agencies, volunteer service agencies such as the Red Cross, Planned Parenthood, half-way houses and rehabilitation organizations that sponsor various types of community development programs.

The Human Resources Development program offers undergraduate and graduate degrees. The undergraduate degree emphasizes a study of basic skill areas and the beginning of some specialization. The graduate degrees represent two areas of specialized professional study. All programs include strong segments of field studies. For additional information, refer to the Human Services Program description for the undergraduate level and the Adult Education and Student Personnel Administration programs at the graduate level; the program area office is located in Miller Hall 311.

INSTRUCTIONAL TECHNOLOGY

Program Area Head:

Dr. Tony Jongejan

Office: Miller Hall 204D

Telephone: (206) 676-3381

The Instructional Technology program offers instruction and research opportunities in the areas of library-media, instructional television, and computer education, including interactive multimedia, on-line networking and information retrieval, and instructional design involving computer technology.

Instructional Technology programs include:

- K-12 Supporting Endorsement in Learning Resources (Library Science)
- Master of Education in School Administration—Learning Resources
- Elective concentrations for computer use in education (elementary and secondary)
- Elective concentrations within the M.Ed.-Elementary and M.Ed.-Secondary programs (see the Graduate School section of this catalog).

The program advisement office is located in Miller Hall 204.

Computers in Education

This program is designed for those who wish to improve or develop their abilities to select, use, adapt and create learning materials incorporating microcomputers. This program provides teachers with the background necessary to integrate computers into their lesson plans. Please consult an adviser.

NOTE: Concentrations of computer education courses are also available to support most College of Education M.Ed. programs. For further information, contact Instructional Technology faculty (Miller Hall 204).

Elective Concentration

24 credits

- Required courses (12 credits)
 - EdAF 444, 452, 453, 457
- Elective courses (12 credits)
 - EdAF 450, 454, 455
 - CS 110 or 210, 491
 - Music 420
 - Additional electives under advisement

COURSES IN EDUCATIONAL ADMINISTRATION & FOUNDATIONS

Courses numbered X37- X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 109 EXPLORATIONS IN EDUCATION (3)
Provides preprofessional students an opportunity to explore the profession of teaching, professional teacher education programs and citizen participation in the process of education.
- 240 PARAPROFESSIONALS IN EDUCATION (1-4)
Prereq: employment or anticipated employment as a paraprofessional. Course work emphasizes the nature of the helping relationship; an overview of philosophical and theoretical issues which confront paraprofessionals; the development of specific job requirement skills.
- 310 THE TEACHER AND THE SOCIAL ORDER (4)
Prereq: written permission of education adviser. Dominant aspects of society as they interact with schools and teaching.
- 311 GLOBAL ISSUES AND AMERICAN EDUCATION (4)
Examination of issues and problems facing mankind in a global village and of ways and means of coping with them in our world community through education.
- 340 PARAPROFESSIONAL ADVISEMENT (4)
Prereq: employment or anticipated employment in campus-based student services and written permission of the Office of Residence Life. Course work emphasizes the nature of the helping relationship; an overview of philosophical and theoretical issues which confront paraprofessionals; and the development of specific job requirement skills.

Educational Administration & Foundations

- 341 **PRACTICUM IN PARAPROFESSIONAL ADVISEMENT (1)**
Prereq: EdAF 340 and permission of instructor. Supervised practicum for students to work in university student services programs. Repeatable with varied experiences to six credits. S/U grading.
- 344 **COMPUTERS IN THE CLASSROOM (3)**
A study of computers in the classroom including using the computer as teacher, student, partner (tool) and aide. Successful completion of this course satisfies the College of Education computer competency requirement.
- 342 **COMPUTER COMPETENCIES (1)**
Prereq: written permission of instructor. Prepares the student to take the College of Education's computer competency examination. Previous experience with computers is assumed. S/U grading.
- 450 **INTRODUCTION TO LEARNING RESOURCES (3)**
Prereq: an introductory professional education course. The role and application of educational media and technology in the teaching-learning process.
- 350 **OPERATION OF LEARNING RESOURCE EQUIPMENT (1)**
Instruction in the operation of learning resource equipment including: video tape recorders, 16 mm projectors, slide/film-strip projectors, overhead and opaque projectors, microcomputers. S/U grading.
- 451 **PRACTICUM IN LEARNING RESOURCES (3)**
Prereq: EdAF 450. Preparation of instructional materials for classroom utilization; selection, evaluation, utilization of major types of audiovisual materials and equipment; organization and curricular integration of educational media; laboratory.
- 391 **HUMAN RELATIONS (1-4)**
A study and practicum in interpersonal relationships as they affect teacher-student interaction.
- 452 **COMPUTER PROGRAMMING PROCEDURES (3)**
Prereq: EdAF 444 or permission of instructor. An introduction to the basic elements of computer program design, and classroom instruction utilizing beginning BASIC and LOGO.
- 410 **TEACHING THE CULTURALLY DIFFERENT CHILD (4)**
Prereq: EdAF 310 or equivalent. Analysis of legal, political and cultural forces influencing education of the culturally different child, of his family, community and values, and of school curricula provisions for cultural identity.
- 453 **EDUCATIONAL USES OF MICROCOMPUTERS (3)**
Prereq: EdAF 444 or permission of instructor. A study of computer education software. Planning strategies for the integration of computers into schools and classrooms will be introduced.
- 411 **FOUNDATIONS OF EDUCATION (4)**
Prereq: written permission of education adviser. Differing views of human nature and learning as they relate to educational aims, methods and content.
- 454 **APPLICATION SOFTWARE FOR EDUCATORS (3)**
Prereq: EdAF 444 or permission of instructor. Examines the use of word processing, database management, spreadsheet analysis, and other types of computer applications by educators.
- 413 **HISTORY OF AMERICAN EDUCATION (4)**
Historical development of formal education emphasizing the impact of cultural forces on evolution of the American system of public education.
- 455 **INTERACTIVE SYSTEMS (3)**
Prereq: EdAF 444 or permission of instructor. An introductory study of interactive systems in educational settings; includes videodiscs/microcomputer interface, CD ROM and database services.
- 414 **GLOBAL EDUCATIONAL SYSTEMS (4)**
Examination of the role of education in creating global citizens for an interdependent world.
- 416 **PERSISTENT PROBLEMS IN EDUCATION (1-4)**
Seminars in socio-philosophical problems relating to education; different seminars deal with different problems and related sociological and philosophical theory.
- 441 **COMPUTERS IN THE EDUCATIONAL FIELD (1-4)**
Application of computers in the field of education. Oriented toward specific educational content needs. Does not satisfy the College of Education computer competency requirement.
- 456 **PRINCIPLES AND PRACTICES OF INDIVIDUALIZED INSTRUCTION AND CONTINUOUS PROGRESS EDUCATION (4)**
Prereq: practicing teacher. Survey of practices related to most individualized programs and how such practices and programs relate to certain principles of learning; emphasis on types and uses of alternative learning materials found in such programs and systems for monitoring and managing learner progress.

Educational Administration & Foundations

- 457 PRACTICUM IN EDUCATIONAL MICROCOMPUTERS (1-4)
Prereq: EdAF 444 or permission of instructor. Supervised practicum for students to work in the design implementation and evaluation of microcomputer-based activities with selected K-12 population.
- 458 MANAGING CONFLICT AND STRESS (1-4)
Prereq: Upper-division status or permission of instructor. Examines the relationships among conflict, stress and health. Coping and managing techniques are emphasized. Self assessment methods necessary to diagnose stressors in the work setting, etc., are also included.
- 473 EDUCATIONAL STATISTICS (5)
Prereq: Math 240 or equivalent, or permission of instructor. Statistics applicable to description of school data and research in education, primarily selected analysis of variance and correlation procedures; computer applications.
- 513 SEMINAR IN PSYCHOLOGY AND SOCIOLOGY OF EDUCATION (4)
Prereq: EdAF 501. Differing concepts of the nature of the individual and society; psychological and sociological development of these concepts; basic premises and implicit assumptions.
- 516 SEMINARS IN PHILOSOPHY OF EDUCATION (3)
Prereq: EdAF 411 or equivalent. Studies of the works of one man, a problem or a movement; implications for schooling.
- 518 CURRENT ISSUES IN EDUCATION (1-5)
Prereq: graduate status or permission of instructor. Examination and discussion of several current and controversial issues in higher education in any of the following areas: adult education, educational administration, foundations, learning resources/library science, personnel administration, community education, interprogram topics Repeatable
- 535 SEMINAR IN PUBLIC SCHOOL FINANCE (4)
Local-state fiscal arrangements; current school budgets; related educational finance procedures.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 501 INTRODUCTION TO EDUCATIONAL RESEARCH (4)
Prereq: graduate status. Experimental documentary, case study, survey and other methods of educational research.
- 510 CULTURAL AND LINGUISTIC DIVERSITIES IN AMERICAN EDUCATION (4)
Prereq: must be a practicing teacher. Development of the knowledge and skills necessary to understand culturally different children. A review of methods for teaching such children in school settings.
- 511 SEMINARS IN SOCIAL THEORIES AFFECTING EDUCATION (3)
Studies in various aspects of social theory as it relates to education. Different seminars will deal with different topics and related theory.
- 512 SEMINAR IN EDUCATIONAL PHILOSOPHY (4)
Prereq: EdAF 501. Differing concepts on the nature of human beings and their education; historical and philosophical development of these concepts, their basic premises, implicit assumptions and issues.
- 538a, b, c, d CASE STUDIES IN SCHOOL ADMINISTRATION (2-4)
Prereq: graduate status. Studies to assist students in understanding school administration. Repeatable to a maximum of 6 credits
- 539 EDUCATIONAL LEADERSHIP (4)
Prereq: teaching experience or permission of instructor. Roles and responsibilities of persons serving as members of the leadership team in public schools.
- 540 POLITICAL AND ECONOMIC FORCES SHAPING EDUCATION (4)
Prereq: graduate status. A study of major forces and groups at the federal, local and state level which impact education through political and economic means.
- 541a THEORY IN EDUCATIONAL ADMINISTRATION (4)
Prereq: graduate status. Major administrative theories.
- 541b PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION (4)
Problems and potentials of the principalship.
- 541c SCHOOL LAW (4)
Legal principles underlying statutes and court decisions related to the schools.

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541e COLLECTIVE BARGAINING IN PUBLIC SCHOOLS (4)

Technical structure and protocol of collective bargaining as well as issues and practices.

542a. FIELD STUDY IN EDUCATIONAL b.c.d ADMINISTRATION (2-3)

Prereq: advancement to candidacy, permission of instructor and submission of outline indicating scope of project. Design, implementation and evaluation of a field project (6 credits minimum).

543a SUPERVISION IN THE PUBLIC SCHOOLS (4)

Supervision as educational leadership in continuous evaluation and improvement of school practice.

543b SEMINAR IN SCHOOL PERSONNEL ADMINISTRATION (4)

Prereq: permission of instructor. Professional relationships among certified employees and other school personnel; development and implementation of policies.

543c DEVELOPING STAFF AND COMMUNITY RELATIONS (4)

Prereq: graduate status. Models for planning, implementing and evaluating professional development and school/community relations programs.

544a SYSTEMS APPROACH AND EDUCATIONAL MANAGEMENT (4)

The systems approach as related to educational project planning and management.

544b COMPUTER TECHNOLOGY AND EDUCATION (4)

Prereq: permission of instructor. A seminar in the study of computers in education: Computer-Managed Instruction (CMI), Computer-Assisted Instruction (CAI), Data processing in schools and classroom management.

544c PLANNING FOR CURRICULUM ADMINISTRATION (4)

Prereq: graduate status. Planning and decision-making process as related to development and administration of educational curriculum and innovations.

544d ADMINISTERING ELEMENTARY AND SECONDARY SCHOOLS (4)

Prereq: permission of instructor. Program articulation between elementary and secondary schools as well as unique aspects of these schools.

546a. ADMINISTRATIVE RESEARCH TOPICS b,c,d (2-3)

Prereq: graduate status. Identification, study and evaluation of research topics appropriate for building level administrators. Repeatable to a maximum of 6 credits.

547a. READINGS IN SCHOOL b,c,d ADMINISTRATION (2-5)

Prereq: permission of instructor. Supervised study focusing on one or more selected topics. Repeatable to a maximum of 6 credits.

548 ADMINISTRATION AND THE INTERNATIONAL SCHOOL (2-6)

Prereq: permission of instructor; graduate status. An examination of the structure, organization and principles by which Western European schools are financed, staffed and administered.

549 SEMINAR IN EFFECTIVE SCHOOL PRACTICES (4)

Review and analysis of research findings related to effective school practices.

550 ORGANIZATION AND ADMINISTRATION OF EDUCATIONAL MEDIA PROGRAMS (3)

Prereq: EdAF 450 or permission of instructor. Problems and principles in establishing, staffing, financing, coordinating, housing and evaluating an audio-visual center.

551 SEMINAR IN LEARNING RESOURCES (3)

Prereq: graduate status and 35 credits in the program. Analysis of factors affecting communication utilizing learning resources.

555 STUDENT PERSONNEL ADMINISTRATION (4)

Prereq: admission to Student Personnel Administration program or permission of instructor. The services commonly included in student personnel programs of colleges and universities; emphasis on purpose, scope, function and effect of student services; their conceptual framework and relationship to faculty, other administrative offices and students.

556 THE COMMUNITY COLLEGE (3)

Prereq: admission to Student Personnel Administration program or permission of instructor. History, objectives, organization and role of the public community college; special attention to the expanding system in the State of Washington.

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557a. SEMINARS: COLLEGE STUDENT

b.c PERSONNEL ADMINISTRATION (4 ea)

Prereq: admission to Student Personnel Administration program or permission of instructor. Intensive examination of current philosophies, theories and practices in higher education administration. Major emphasis is placed on human development and organization behavior.

558 STUDENT DEVELOPMENT COUNSELING (3)

Prereq: admission to Student Personnel Administration program or permission of instructor. Consideration of theories and techniques involved in student development counseling and advisement, including interviewing, interpersonal communications and crisis intervention; emphasis on skill acquisition through micro-training techniques.

559 RESEARCH IN COLLEGE STUDENT PERSONNEL ADMINISTRATION (1-6)

Prereq: admission to MEd program in Student Personnel Administration and EdAF 501. An in-depth research project in the area of higher education administration or related areas of inquiry.

575 ASSESSING EDUCATIONAL QUALITY (3)

Prereq: EdAF 501 or permission of instructor. Developing criteria and designing procedures for measuring input process and product resulting from special or innovative programs, community factors, options in administrative and instructional organization; for coordinators and research workers in the public schools.

576 ADULT EDUCATION ADMINISTRATION (4)

Prereq: upper-division course in administration theory, or equivalent; e.g., administrative experience. Covers the fundamentals of planning, organizing, staffing, control and leadership in public service and voluntary organizations.

577 LEARNING PROBLEMS OF ADULTS (4)

Prereq: permission of instructor. The problems related to structuring learning and instruction for adults in most types of teaching situations are examined. Case studies utilized.

578 PROGRAM PLANNING FOR ADULT EDUCATION (4)

Prereq: graduate status and permission of instructor. Program planning for all types of institutionalized adult education settings, including both private and public organizations, in-service education, etc. Case studies utilized.

579 THE NATURE AND USE OF POWER IN BUREAUCRACIES (4)

Prereq: graduate status or permission of instructor. Examines the nature of social power in organizations, how power is created and how it flows, how it is increased through coalitions, coalition bargaining issues and patterns, conditions influencing coalition formation, conflict bargaining, theories of bargaining tactics, and uses and misuses of coercion.

592a. FIELD EXPERIENCE IN

b.c ADMINISTRATION FOR THE PRINCIPAL (2-6)

Prereq: written permission of instructor. Applicants for the Washington State Administrative Certificate. S/U grading.

592f. FIELD EXPERIENCE IN STUDENT PERSONNEL ADMINISTRATION (2-6)

Prereq: admission to Student Personnel Administration program. Supervised field experience in developing leadership and management skills and competencies in student personnel administration. Students will intern in various offices and programs of college student services or related activities. Repeatable to 14 credits. S/U grading.

592h. FIELD EXPERIENCE IN ADULT EDUCATION (2-6; total 8)

Prereq: permission of instructor. Supervised field experience in developing, directing or evaluating adult education programs relating to: (h) administration; (j) learning problems; (k) curriculum planning.

594j. PRACTICE IN ACTION RESEARCH (3 ea)

Prereq: teaching experience and permission of instructor. Field-based studies by entire school building staffs to resolve persistent and significant school problems. Course requirements include the development of an approved proposal for action research. S/U grading. May be repeated with different content.

639 CURRENT TOPICS IN EDUCATION (1-5)

Prereq: master's degree and permission of instructor. Studies of current topics in any one of the following areas: (a) adult education; (b) educational administration; (c) reading; (d) foundations; (e) learning resources/library science; (f) secondary education; (g) special education; (h) personnel administration; (i) elementary education; (k) early childhood education; (n) community education; (p) interprogram topics.

642a. FIELD PROJECT IN EDUCATIONAL

b, c, d ADMINISTRATION (2-5)

Prereq: master's degree, permission of instructor and submission of a one-page outline indicating scope of proposed project. Repeatable to 8 credits.

643 ADMINISTERING THE IMPROVEMENT OF CURRICULA (3)

Prereq: MA or MEd and EdCI 521 or 522 or equivalent. Systematic analyses of curricular offerings, development of guidelines for curriculum design and development of curricular screening devices.

644a. SEMINARS IN EDUCATIONAL

b, c MANAGEMENT: ADVANCED SYSTEMS THEORY (5 ea)

644a Advanced Educational Systems Analysis

Prereq: master's degree and permission of instructor. Identification of high priority needs within a school system and application of systems theory.

644b Educational Change. Theory and Practice

Prereq: master's degree and EdAF 644a. Analysis of appropriate strategies and tactics for effecting planned change in public schools and/or districts.

644c Management by Objectives: Accountability

Prereq: master's degree and EdAF 644a. Establishment of management objectives at various levels (system-process, input, output, etc., for the express purpose of evaluating people and/or programs thus affecting accountability).

647a. SEMINARS FOR SCHOOL PRINCIPALS

b, c, d (4 ea)

Prereq: master's degree, applicant for a Washington State Principal's Certificate and/or permission of instructor. Current problems and issues facing school administrators.

676 INSTRUCTIONAL SYSTEMS THEORY AND COMMUNITY COLLEGE INSTRUCTION (4-6)

Prereq: master's degree and/or permission of instructor. Instructional systems theory with application to the development of competency-based programs for community college instruction. Students will plan, write and evaluate a short competency-based program for an instructional problem in their own area of teaching.

690a THESIS (1-9)

Prereq: approval of the student's graduate committee. Research study under the direction of a faculty committee; the thesis may be done off campus between periods of residence work. S/U grading.

690b FIELD PROJECT (1-9)

Prereq: approval of the student's graduate committee. Field project under the direction of a faculty committee; the field project may be done off campus between periods of residence work. S/U grading.

692a. FIELD EXPERIENCE IN

b, c ADMINISTRATION FOR THE PRINCIPAL (2-6)

Prereq: master's degree and written permission of instructor. Applicants for the Washington State Administrative certificate. S/U grading.

HUMAN SERVICES

Human services, as a profession and an area of study, is concerned with efforts to aid persons in fulfilling their physical, mental, emotional and societal needs. The human services major is designed to provide an understanding of helping and healing relationships, and of the agencies, organizations and societal context within which these relationships take place.

The human services major is an upper-division program within the Department of Educational Administration and Foundations of the Woodring College of Education and leads to a B.A. degree. Admission preference is given to applicants who have completed two years of college or university study, including the General University Requirements (sciences, mathematics, communications, social sciences, humanities, non-western and minority cultural studies).

The curriculum in the human services major is interdisciplinary, based on concepts and skills from the social and management sciences, philosophy and science. Curricular goals emphasize continued integration between theory and practice in human service organizations. Courses are scheduled to minimize conflict with work schedules. Most classes meet in the evening with some classes in the afternoon or on pre-scheduled weekends.

Admissions information is available in Miller Hall 311.

Computer Competency

Students admitted to programs in the Department of Educational Administration and Foundations are required to possess minimum computer competency prior to completion of their second quarter of enrollment in the program. Procedures for demonstrating or developing competence are available from the Department of Educational Administration and Foundations, Miller Hall 204.

Program Requirements

The human services curriculum consists of six areas of study:

1. Core courses (24 credits): HS 301, 303, 305, 402, 404, 406, taken one per quarter for six quarters, providing a foundation in intrapersonal, interpersonal, small group, organizational, community, societal and global dynamics as they relate to the human services profession.
2. Professional Internship Experience (24 credits): HS 390a,b,c; HS 490a,b,c, taken one per quarter for six quarters, which provides at least 16 hours per week of professional experience in an approved human service setting. Students may meet this requirement either as (a) salaried employees of a human service agency or as (b) volunteers or interns who have, or can obtain, placements in approved human services settings. (Students are responsible for finding their own placements, subject to program approval. HS 320a provides a structured process for selecting an internship site. Assistance is available and recommended.)
3. Internship seminars for six quarters (6 credits): HS 320a,b,c; HS 420a,b,c, taken one per quarter for six quarters, which provides students the opportunity to discuss their professional internship experiences and receive

weekly consultation from the faculty and their peers.

4. Applied Research Methods (5 credits): HS 482, which provides students with the knowledge and skills required to examine human service agencies and services.
5. Seminar in Cultural Awareness (3 credits): HS 477, which responds to the humanistic values attendant to working and living in pluralistic and global societies.
6. Seminars in one of the professional concentrations. Twenty-eight credits are required, which includes seminars from the human services curriculum, independent study (independent study numbers 300 and 400 may be taken to a total of 12 credits), and related and approved course work in other departments.

PROFESSIONAL CONCENTRATIONS

The Counseling Concentration

This concentration is designed to develop introductory counseling skills. Required courses for this concentration (21 credits) are: HS 446, 447, 448; three additional courses selected from HS 331, 333, 335, 432, 434, 438, 451.

Chemical Dependency Counseling (sub-concentration) — This area of study is offered to provide opportunities for students to improve their knowledge of the wide range of topics in the alcohol and drug abuse fields. The curriculum is designed to academically prepare a person for eligibility as a certified chemical dependency counselor at levels 1, 2, and 3 (CDCC I, CDCC II, CDCC III), State of Washington. It also meets state standards for qualified alcoholism counselors according to WAC 279.19. Students specializing in this concentration at Level 1 are required

to successfully complete a six-course curriculum (HS 440, 441, 443, 447, 448 and 449). HS 440 and 443 are open to all students; however, students wishing to enroll in HS 441, 447, 448 and 449 must be admitted by permission. To receive permission, students must submit an application, together with statements of personal commitment, letters of reference and interviews when requested. Students who have met the requirements for CDCC II or CDCC III must receive permission of the instructor.

The Management Concentration

This concentration is designed to prepare students to manage human services organizations. Required courses for this concentration (12 credits) are: HS 381, 383, 485, 487. Electives are selected under faculty advisement and may include HS 373, 476, 477, 480, 484.

This concentration is under review and may be subject to change during this catalog period.

The Generalist Concentration

This concentration is designed to prepare students who wish their professional development to include aspects of the preceding concentrations. Students in this concentration will, with adviser approval, design an individualized program of study. The program will include at least two courses from each of two professional concentrations.

COURSES IN HUMAN SERVICES

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- | | |
|--|--|
| <p>301 HUMAN SERVICE PROFESSIONALS AND PERSONAL SYSTEMS (4)
Introduction to the helping role, with emphasis on motives, values, ethics and professional practice. Self-awareness and personal communication are fostered.</p> | <p>303 HUMAN SERVICE PROFESSIONALS AND INTERPERSONAL SYSTEMS (4)
Prereq: HS 301 or permission of instructor. The dynamics of interpersonal systems in relation to other human service systems. Emphasis on developing interpersonal communication skills and effective helping strategies.</p> |
| <p>305 HUMAN SERVICE PROFESSIONALS AND SMALL GROUP SYSTEMS (4)
Prereq: HS 303 or permission of instructor. The dynamics of small group systems in relation to other human service systems. Emphasis on participation in and facilitation of task-oriented or decision-making groups and leadership theory.</p> | <p>320a, b.c. INTERNSHIP SEMINAR—FIRST YEAR (1 ea)
Prereq: must be taken concurrently with HS 390a, b, c, and first-year core — HS 301, 303, 305. Readings and discussion on the application of human services concepts, with emphasis on individuals and groups.</p> |
| <p>330 PROFESSIONAL TRAINING AND DEVELOPMENT WORKSHOPS (1-3)
Recognizes short course training and development opportunities provided by professional human services workers and other professionals at professional seminars, meetings and conferences. Requires pre-course preparation and post-course written and oral synthesis. Repeatable to a maximum of 6 credits. S/U grading.</p> | <p>331 DEVELOPMENTAL PATTERNS: CHILDREN/ ADOLESCENTS (3)
Developmental theories and current issues of children and adolescents. Integration of concepts with the problems of service delivery</p> |
| <p>333 DEVELOPMENTAL PATTERNS: ADULTS/SENIORS (3)
Developmental theories and current issues of adults and seniors. Integration of concepts with the problem of service delivery.</p> | <p>335 DEVELOPMENTAL PATTERNS: FAMILY (3)
Theories and historical and current issues of family systems. Integration of concepts with the problem of service delivery.</p> |
| <p>371 ISSUES AND CONCEPTS IN HUMAN SERVICES SYSTEMS (3)
Current issues and concepts are considered, with emphasis on providers, clients and diverse socio-cultural influences.</p> | <p>373 LAW AND HUMAN SERVICES (3)
Legal processes and their effect on human services client populations and delivery systems. Legislative, judicial, administrative, and policy and procedural processes.</p> |

Educational Administration & Foundations

- 381 PROGRAM PLANNING (3)**
Principles of program planning, including needs assessment, authority and credibility, resource identification and management, goal setting, politics of planning and implementation.
- 383 PRINCIPLES OF AGENCY MANAGEMENT (3)**
Management principles including program planning and goal setting, budgeting, staffing, organizing, public relations, control and leadership.
- 390a,b.c PROFESSIONAL INTERNSHIP — FIRST YEAR (4)**
Prereq: must be taken concurrently with HS 320a,b,c, and first-year core — HS 301, 303, 305. Field experience for first-year students in human services. Staff and agency supervision. S/U grading.
- 402 HUMAN SERVICE PROFESSIONALS ORGANIZATIONAL SYSTEMS (4)**
Prereq: HS 305 or permission of instructor. The dynamics of human service organizations in relation to other human service systems. Emphasis on knowledge of factors that influence organizational behavior, the skills useful in influencing organizational outcomes and the characteristics of effective human service professionals in human services organizations.
- 404 HUMAN SERVICE PROFESSIONALS AND COMMUNITY SYSTEMS (4)**
Prereq: HS 402 or permission of instructor. The dynamics of community systems and the relationship of these systems to other human service systems. Emphasis on factors that influence community systems, skills of influencing community structure and process, and the characteristics of effective human service professionals in community settings.
- 406 HUMAN SERVICES PROFESSIONALS AND SOCIETAL AND GLOBAL SYSTEMS (4)**
Prereq: HS 404 or permission of instructor. The dynamics of societal and global systems and their effects on the other subsystems of human services. Emphasis on the factors influencing societal and global outcomes, and the characteristics of effective human service professionals in societal and global settings.
- 420a,b.c INTERNSHIP SEMINAR—SECOND YEAR (1 ea)**
Prereq: HS 320a,b,c. Must be taken concurrently with HS 490a,b,c, and second-year core — HS 402, 404, 406. Readings and discussion on the application of human services concepts with emphasis on agencies and organizations.
- 430 PERSISTENT PROBLEMS IN HUMAN SERVICES (1-4)**
Seminars in contemporary social problems which impact the roles of human services workers. Different seminars deal with different problems and related treatment theories.
- 432 PERSONALITY THEORY (3)**
Theories of personality, the philosophical problems of personality theory formulation, and the impact on service delivery.
- 434 WOMEN AND MEN IN TRANSITION (3)**
Examination of changes occurring in women's/men's roles. Emphasis on personal awareness as well as social, political and economic issues of particular interest to women/men.
- 438 PERSONAL HEALTH SYSTEMS (1-4)**
Health from a systems approach and the interplay of body/mind/spirit, with emphasis on the roles which human service delivery systems (including major health systems) play in fostering or discouraging holistic health practices.
- 440 CHEMICAL DEPENDENCY AND ADDICTIONS: ETIOLOGY AND TREATMENT (3)**
Examination of the labeling and behavior process in substance abuse (drug, alcohol, food), and exposure to theories and treatment modalities.
- 441 CHEMICAL DEPENDENCY AND ADDICTIONS: THE HELPING RELATIONSHIP (4)**
Prereq: HS 440, 443 and written permission. Development and application of basic skills, analysis of alternative interventions, referral resources and professional ethics relating to the alcohol or substance abuser.
- 442 CHEMICAL DEPENDENCY AND ADDICTIONS: RECOVERY AND REHABILITATION (2)**
Prereq: HS 440 and written permission. Analysis of the physiological, psychological and sociological aspects of recovery and rehabilitation. Development of understandings and skills for the implementation of aftercare programs.
- 443 CHEMICAL DEPENDENCY AND ADDICTIONS: PHYSIOLOGY AND PHARMACOLOGY (3)**
Examines the effect and mechanism of action of alcohol, hallucinogenic and other commonly-abused drugs. Studies the physiological effects and responses to such phenomena.

- 444 CHEMICAL DEPENDENCY AND ADDICTIONS: ADVANCED COUNSELING (3)**
Prereq: HS 440, 441 or permission. Advanced alcoholism counseling techniques and a survey of topics of special value to alcoholism counselors, i.e., sexual/child abuse, sexual dysfunctions, eating disorders. Includes development of appropriate treatment plans.
- 446 INDIVIDUAL INTERVIEWING AND COUNSELING (4)**
Prereq: HS 303 or another interpersonal skills class or permission of instructor. Theory and practice of basic skills used in one-on-one helping relationships; includes lab for skills acquisition and development.
- 447 GROUP FACILITATING AND COUNSELING (4)**
Prereq: HS 446 or permission of instructor. Theory and practice of basic skills used in fostering and maintaining helping relationships in group settings. Includes lab for skills acquisition and development.
- 448 CASE MANAGEMENT/COUNSELING APPROACHES (4)**
Prereq: HS 446 and 447 or permission of instructor. Introduction to a number of major theories of counseling. Review of a variety of approaches to caseload management in individual and group counseling settings. Additional work with skills acquisition and development.
- 449 CHEMICAL DEPENDENCY AND ADDICTIONS: FAMILY DISEASE (3)**
Prereq: HS 440 or permission of instructor. Recognition and impact of alcoholism on the family, friends and significant others. Therapeutic strategies to facilitate changes in those persons who are affected. Individual and group counseling.
- 450 CHEMICAL DEPENDENCY AND ADDICTIONS: LEGAL AND ETHICAL ISSUES (3)**
Examines relevant laws, judicial decisions, administrative regulations, policy and procedures that impact alcohol and drug abuse and detoxification and treatment.
- 451 PHILOSOPHY OF HELPING (3)**
A philosophical exploration of various concepts of the helping relationship and the ethical issues inherent in that process.
- 452 CHEMICAL DEPENDENCY AND ADDICTIONS: OVERVIEW OF MENTAL ILLNESS (3)**
Prereq: HS 440 or permission of instructor. Focuses on issues related to chemical dependency and other psychiatric disorders, historically disparate views and new interface between mental health and chemical dependency fields, varieties of other psychiatric disorders, dual-diagnosis assessment strategies, CD treatment planning for dually disordered persons and understanding/coordinating with mental health systems.
- 453 CHEMICAL DEPENDENCY AND ADDICTIONS: STRATEGIES OF INTERVENTION (3)**
Prereq: HS 440. Analysis of strategic intervention forms and types for chemical dependency: individual, family, organizational and community intervention. Develops knowledge and action skills for each intervention type.
- 474 WORK AND HUMAN SERVICES (3)**
Work and career patterns in contemporary culture, with a focus on workforce needs, unemployment patterns and the place of work as a political and lifestyle issue.
- 476 THE FUTURE SOCIETY AND HUMAN SERVICES (3)**
Theories and predictions about the future of society are examined as they impact the kinds, quality and theory of human services delivery.
- 477 SEMINAR IN CULTURAL AWARENESS (3)**
Readings and discussion of contemporary cross-cultural issues; culturality different groups and their interaction with human services systems; comparative ethnic issues, conflicts and institutional practices.
- 480 POLITICS OF HUMAN SERVICES (3)**
Examination of political forces affecting human services agencies, and the development of skills for intervention in the political process.
- 482 APPLIED RESEARCH METHODS (5)**
Study of theory and techniques involved in examining the effectiveness of human services agencies, including the application of techniques that lead to direct social action and agency intervention. Topics include research design, statistical treatment of results and analysis of evaluation findings.
- 483 INFORMATIONAL TECHNOLOGY AND HUMAN SERVICES (3)**
A study of the use of technology in human services.

Educational Administration & Foundations

- 484 PROGRAM FUNDING (3)
Planning, writing, marketing and evaluating funding proposals. Elements of grant proposal preparation, including the methods of seeking grant funds, interpreting funding guidelines, designing marketing strategies and negotiating with funding agencies.
- 485 AGENCY BUDGET AND CONTROL (3)
Procedures for creating and implementing budgets in agency programs for the purpose of management and control.
- 486 HUMAN RESOURCES DEVELOPMENT (3)
Development of knowledge and skills in consultation, advocacy, organizing and mediation in the human services professions.
- 487 LEADERSHIP IN MANAGEMENT (3)
How a manager influences and energizes subordinates or colleagues beyond what can be done with formal authority. Sources of power, patterns of decision-making, politics, style, establishment of trust and technical competence.
- 490a, b, c PROFESSIONAL INTERNSHIP — SECOND YEAR (4)
Prereq: must be taken concurrently with HS 420a, b, c, and second-year core — HS 402, 404, 406. Field experience for second-year students in human services. Staff and agency supervision. S/U grading.
- 499 GRADUATION SEMINAR (4)
Prereq: HS 404, 420b, 490b. Provides a capstone experience for graduating seniors. Readings and discussion to assist integration of overall program experience, including core seminars, internship and concentration theoretical components. Preparation and presentation of a personal program profolio. May be taken in lieu of final quarter internship experience.

LIBRARY SCIENCE

Program Adviser: Dr. Les Blackwell

"Information" is one of the key words in education today, and educators in many settings are increasing their use of the library-media center to enhance their teaching and the learning of their students. The supporting endorsement in learning resources is intended to provide teachers with the skills to make efficient use of learning materials in print, non-print and elec-

tronic formats in their lessons. This program also offers excellent preparation for those who wish to eventually become directors of library media centers.

K-12 Supporting Endorsement — Learning Resources 25 credits

- Required (16 credits)
- EdAF 450
 - EdAF 444
 - Lib Sci 405
 - or Lib Sci 407
 - EdAF 453
 - Lib Sci 403
- 9 credits of electives selected from:
- Lib Sci 309, 401, 402, 410
 - EdAF 452, 454, 457
 - EdAF 455, 451

M.Ed. School Administration — Learning Resources

For a description of this program, please see the Graduate School section of this catalog.

COURSES IN LIBRARY SCIENCE

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

- 125 LIBRARY ORIENTATION (1)
Introduction to books and libraries and to the Wilson Library in particular; effective use of standard reference tools.
- 304 INTRODUCTION TO CHILDREN'S LITERATURE (2)
An overview of the field of literature for pre-school through middle school students.
- 309 STORYTELLING (3)
Selection, adaptation and presentation of stories for elementary school children.
- 401 THE LIBRARY IN THE SCHOOL (3)
The organization and maintenance of effective materials-centered libraries in elementary and secondary schools.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

- 402 ORGANIZATION OF MATERIALS (3)
Principles of classification and cataloging; making unit cards, adapting printed cards, and organizing a shelf list and dictionary catalog.
- 403 BASIC INFORMATION SOURCES (3)
Evaluation of basic information sources and practice in their use.
- 404 THE LIBRARY IN THE SOCIAL ORDER (3)
Social, educational, and cultural implications of the role of the library in society.
- 405 BOOKS AND MATERIALS FOR ELEMENTARY SCHOOLS (4)
Reading and evaluation of books and materials for elementary children; emphasizes wide reading, book selection, literary analysis, correlation with the curriculum, current content trends and innovative uses.
- 407 BOOKS AND MATERIALS FOR YOUNG ADULTS (4)
Reading and uses of books for the adolescent and his curriculum; multicultural, self-concept literature, realistic and mystical fiction and poetry; literary analysis.
- 410 WRITING AND ILLUSTRATING CHILDREN'S BOOKS (4)
Prereq: Lib Sci 405 or permission of instructor. Analysis of illustrations and writing of children's and adolescents' literature; techniques of composition and illustrations fundamental in writing, illustrating and binding.

- 502 ADVANCED CATALOGING (4)
Prereq: Lib Sci 402 or permission of instructor. Application of theories and principles of cataloging in classifying print and non-print materials for elementary and secondary schools and community colleges.
- 505 BOOKS AND MATERIALS: USE AND EVALUATION (4)
Prereq: Lib Sci 405 or permission of instructor. Study and selection of children's and adolescent literature (fiction and poetry). Literary criticism. Use of various media.
- 520 INSTRUCTIONAL DEVELOPMENT (4)
Prereq: permission of instructor. Understanding and application of learning theory to library materials and media. Work with instructional clients (industrial or educational) in production of materials.



Educational Curriculum & Instruction

EDUCATIONAL CURRICULUM & INSTRUCTION FACULTY

- SUZANNE L. KROGH (1990) Chair.
Professor. BA, Florida State University;
MEd, University of Maryland; PhD, University
of Oregon.
- CHARLES M. ATKINSON (1976) Associate Professor. BA in Ed, MEd, Central Washington
State College; EdD, Utah State University.
- HORACE O. BELDIN (1965) Professor. BS, MS,
University of Oregon; PhD, Syracuse
University.
- LEE A. DALLAS (1968) Associate Professor. AB,
Gettysburg College; MEd, EdD, Temple
University.
- HOWARD M. EVANS (1972) Associate Professor.
BS, Eastern Oregon College; MA,
EdD, University of Illinois.
- FLORA FENNIMORE (1969) Professor. BS, Mt.
Angel College; MA, EdD, Washington
State University.
- SHEILA FOX (1977) Associate Professor. BA,
Western Washington State College; MEd,
PhD, University of Washington.
- PETER J. HOVENIER (1970) Associate Professor.
BA, University of California, Santa
Barbara; MA, Brigham Young University;
MA, PhD, Stanford University.
- KENNETH W. HOWELL (1988) Professor. BA,
MA, Arizona State University; PhD, University
of Oregon.
- ROBERT KEIPER (1990) Assistant Professor.
BA, Kearney State College; MA, EdD, University
of Northern Colorado.
- MARVIN L. KLEIN (1978) Professor. BS, MS,
Southern Illinois University; PhD, University
of Wisconsin, Madison.
- LAWRENCE W. MARRS (1984) Professor and
Dean, School of Education. BS, MS, University
of Utah; PhD, University of Texas.
- THEODORE A. MORK (1971) Professor. BA,
MEd, Western Washington State College;
PhD, Syracuse University.
- KARNA L. NELSON (1987) Lecturer. BA, MA,
Arizona State University.
- ALDEN L. NICKELSON (1962) Professor of
Education and Biology. BS, MA, PhD, University
of Washington.
- SAMUEL A. PEREZ (1989) Associate Professor.
BS, Delta State University; MEd, Memphis
State University; EdD, Utah State
University.
- ROBERT H. PINNEY (1971) Associate Professor.
BA, University of Washington; EdD,
Stanford University.
- KAY PRICE (1984) Lecturer. BA, MA, Western
Washington University.

- MAURICE L. SCHWARTZ (1968) Professor and
Dean of Graduate School and Research.
BS, MA, PhD, Columbia University.
- KRISTINE L. SLENTZ (1989) Visiting Assistant
Professor. BA, State University of New
York; MA, PhD, University of Oregon.
- MARIAN J. TONJES (1975) Professor. BA, MA,
University of New Mexico; EdD, University
of Miami.
- JOHN C. TOWNER (1972) Professor. BS, MSE,
Wisconsin State University; PhD, University
of Minnesota.

OVERVIEW

Students who wish to become teachers or to expand their knowledge of teaching can choose from programs in early childhood, elementary, secondary, reading and special education. Programs are designed to balance work in theoretical foundations, teaching methodology, academic content and practical classroom applications. The emphasis assigned to each of these areas is determined by each program's focus and by each student's individual needs.

Undergraduate programs in Elementary and Secondary Education require an academic major in addition to course work within the College of Education. Special Education is an academic major that also includes course work within the College of Education. At the time of catalog printing, Early Childhood certification was provided through adding course work to the Elementary program; a program in Early Childhood Education was under development and may be available before the next catalog revision.

Western Washington University graduates with teaching certification are in high demand as teachers in many fields and grade levels. Areas of greatest demand fluctuate. Students who are interested in a teaching career are encouraged to visit the

Admissions and Advisement Office, Miller Hall 206, for more information or critical areas of need. It will then be possible to make a knowledgeable choice of major and to begin work in it early in the student's University experience.

BACHELOR OF ARTS IN EDUCATION WITH CERTIFICATION

The teacher education curriculum at Western is a carefully sequenced professional program that is firmly backed by current research on effective teaching. Each quarter includes attention to the four basic strands in education:

- Research, theory, and philosophy
- Curriculum
- Methods
- Practical experiences

Students are exposed to young people and the classroom environment throughout their programs which culminate in a full-time internship.

PROGRAM LENGTH

While it is possible to earn a bachelor's degree and initial teaching certificate with certain majors in four academic years, many students require closer to five years. Following acceptance by the College of Education, which requires at least sophomore status, the student should expect to take eight to ten quarters to complete the teacher certification program. During these eight to ten quarters, the student has time to work on the major and General University Requirements, but it is advisable to have made progress in these areas prior to beginning the professional education sequence. Students who enter the College of Education as juniors (i.e., many transfer students) should have satisfied nearly all of the General University Requirements and should have a good start on their academic major.

Program Sequence

Each teacher education program begins twice per year. Elementary Education and Elementary and Early Childhood Special Education begin in fall and spring quarters. Secondary and Secondary Special Education begin in fall and winter quarters. K-12 candidates join other programs and may begin in fall, winter or spring.

NOTE: There is also a concentrated, four- to six-quarter teacher preparation program for people who have a bachelor's degree but do not wish to pursue a master's degree at this time.

MASTER'S DEGREE AND INITIAL CERTIFICATION PROGRAMS

Programs leading to a master's degree and initial certification are available to students with bachelor's degrees and no education background. See the Graduate School section of this catalog for further information on degree options that include certification.

CERTIFICATES AND ENDORSEMENTS

State of Washington teachers are allowed to teach only those subjects for which they have endorsements. One endorsement is required for initial certification; two endorsements are required for continuing certification.

NOTE: Approved endorsements are subject to State of Washington legislative and administrative action and are not determined by Western Washington University. Students should check with the Admission and Advisement Office of the College of Education for any changes to this listing.

Secondary certificate candidates are required to complete a major approved by the state certification office for endorsement. The follow-

ing majors all provide endorsement:

- **Anthropology
- Art (see K-12 section)
- *Biology
- *Biology/Chemistry
- *Chemistry
- *Chemistry/Mathematics
- *Chemistry/Physics
- Communication
- Communication/English
- *Earth Science
- **Economics
- English
- English/Theatre (this double major leads to endorsements in English and drama)
- English/Communication (this double major leads to endorsements in English and speech)
- Foreign Language (see K-12 section)
- *General Science
- **Geography
- School Health Education
- **History
- Mathematics
- Music Education (see K-12 section)
- Physical Education (see K-12 section)
- *Physics
- *Physics/Mathematics
- **Political Science
- **Psychology
- **Social Studies (student designed)
- **Sociology
- Student/Faculty-Designed majors may be acceptable if developed according to established policies and procedures
- Technology Education

Elementary certificate candidates

must complete the program leading to a primary endorsement in Elementary Education and, in addition, must complete an approved 45- to 50-credit major designed specifically for Elementary Education candidates. The current list includes:

- Anthropology
- Art

- Child Development (Interdisciplinary)
- Communication
- Economics
- English
- Environmental Studies
- Foreign Language
- General Science
- Geography
- Geology (Earth Science)
- History
- Humanities
- Mathematics
- Music
- Physical Education
- Psychology (Human Development)
- Social Studies
- Sociology
- Special Education
- Student/Faculty-Designed Major

Some of these majors for elementary candidates do *not* fulfill the requirements for a WWU recommendation for an additional supporting endorsement. See the departmental description and your adviser for additional information.

K-12 certificate candidates must complete a major in one of the four areas listed below as well as the K-12 professional education program:

- Art
- Foreign Language
- Music
- Physical Education

***Science Education.** *Majors in science programs that do not offer a Bachelor of Arts in Education require completion of a Bachelor of Arts or Bachelor of Science plus additional courses in science methods. Consult the Science Education section listed in the index.*

****Social Studies Education.** *All majors in the social studies fields, with the exception of the interdisciplinary social studies major, require the additional 44- to 46-credit Social Studies minor. Consult the Social Studies Education course descriptions in this catalog. Majors, except the social studies major itself, lead to dual endorsement (the approved major and social studies).*

Special Education certificate candidates may complete either the Special Education K-12 or the Preschool-3rd Grade Special Education program. The K-12 sequence qualifies students to teach special education only and does not meet the State of Washington's requirement for endorsements in two areas. The P-3 program results in a certificate with at least two endorsements.

Programs that combine special education with either a secondary or an elementary certificate result in at least two endorsements and are considered to be more versatile than the K-12 special education only sequence. Please see a special education adviser about these programs.

Supporting Endorsements, which can be added to a primary endorsement, are offered in a number of subject areas. Check with a departmental adviser for requirements for the more than 20 endorsements offered in arts, sciences, and fine and performing arts. Endorsements offered through the College of Education include:

- Early Childhood
- Learning Resources
- Reading
- Special Education

Additional supporting endorsements can be added after the initial certificate is granted. Students receiving their teaching certificate after July 1, 1988, are required to obtain a second endorsement prior to the completion of the *continuing certificate* program. Contact the certification officer in Miller Hall 301, phone (206) 676-3416, for more information on the requirements for these supporting endorsements.

ADMISSION TO TEACHER EDUCATION

Pre-Admission Work

Western offers a number of courses such as EdCI 131, EdAF 109 or 311 that can give students who are considering teaching as a career early

exposure to the profession. Of the above, EdAF 311 can be taken as part of the General University Requirements (GURs). Several courses that are required for admission to or that fulfill competency requirements of the College of Education also fulfill GUR requirements. English 101, Math 281 and Communication 101 are such courses. There may be other GUR courses that will apply to a student's major area. Students should check with an adviser in their academic department for suggestions on specific GURs.

Students should pay particular attention to those courses which, although not required until after admission to teacher education, can provide valuable preparation for the teacher education program. These courses include Math 281 (a prerequisite for the required Math 481) and those courses meeting the general speech and computer competency requirements. Students also will benefit by beginning work toward the chosen major as soon as possible, especially those majors which require careful sequencing of courses.

Before admission to any teacher education program, students are required to complete an in-school series of observations. For further information see the Woodring College of Education Admissions Advisement Office, Miller Hall 206E, (206) 676-3378.

Students interested in pursuing a career in teaching can benefit by working with children and youth as much as possible. Such organizations as the YMCA, YWCA, Camp Fire, Scouts, church schools, Boys and Girls Clubs, youth sports teams and clubs, and summer camps provide good experiences with groups of young people.

Admission Procedures

The Washington Administrative Code, Section 180-75-082, requires applicants for teacher certification in Washington to give evidence of "good moral character and personal

fitness." The application for certification requires candidates to answer several questions dealing with sexual offenses, drug and alcohol offenses, and any other prior police records. Students with prior records must report to the WWU certification officer prior to admission to the College of Education.

Students are encouraged to apply for admission to the College of Education as soon as possible after they have completed 45 quarter hours. The Admissions and Advisement Office, Miller Hall 206E, will assist students in receiving the proper information to meet all of the admission standards.

Students will not be admitted and may not begin taking courses in the education sequence until all admission standards are met.

NOTE: Admission to the teacher education program may be limited due to enrollment restrictions.

Admission Standards

Requirements for admission are:

- Credits**
Completion of at least 45 credits.
- Grade Point Average Minimum**
A 2.75 cumulative grade point average (GPA) at the time of application in courses taken from any accredited institution of higher education. This GPA may be determined on the basis of the student's most recent 45 credits.
NOTE: Due to enrollment restrictions in the program, a higher grade point average may be required some quarters for admission to the program.
- Entrance Tests**
Minimum total scores* on the Washington Pre-College Test (WPCT), the Scholastic Aptitude Test (SAT) or the American College Test (ACT) are required by state law for admission to teacher education programs.

The College of Education requirements are separated according to verbal and quantitative scores and are as follows:

Test	Total Score	Verbal Comp. (Eng.)	Quant. Comp. (Quant.)
WPCT	103**	50	40
SAT	910	440	340
ACT	23	20	9

**The above numbers represent scores and are not percentiles. A student who does not have these scores may arrange to take the WPCT through the Testing Center at WWU.*

***The state requirement for the WPCT is the mean score for all people taking the test the previous year. It may change slightly for each subsequent school year, so students are advised to check with the College of Education Admissions Office.*

- In-School Observation**
Five full days of classroom observation in an accredited school. This observation may be completed in one or two classrooms. Students must request a Five-Day Observation Packet from the Office of Admissions and Advisement in Miller Hall 206E prior to doing their observation. Forms included in this packet will be required for admission. When requesting this packet, students need to designate their area of interest as Elementary, Secondary, Special Education, or K-12.
- English Competency**
Completion of an approved English composition course, with a grade of B- or higher. English 101, 201, 202 and 301 at Western or equivalent courses fulfill this requirement.
- Mathematics Competency**
Students applying for admission to the Elementary (K-8) or Special Education (K-12) programs must meet a mathematics competency requirement which includes one of the following:
— Suitable score on the Intermediate Algebra Placement

Exam for enrollment in Math 281.

- A grade of C- or better in Math 102.
- A grade of C- or better in any course named Intermediate Algebra or Pre-Calculus Mathematics or College Algebra at any two-year or four-year college.

ADDITIONAL REQUIRED COMPETENCIES

Computer competency is required of all teacher education students before they begin their fourth quarter of the professional program. Students should select one of the following three options to demonstrate this competency:

- Completion of EdAF 444 (Computers in the Classroom) with a grade of C or higher.
- Completion of EdAF 344 (Computer Competencies) with a grade of C or higher.
- Challenge of the competency (contact the Instructional Technology program in EdAF, Miller Hall 204).

English competency is expected of all teacher education students. They must understand and demonstrate a high level of competence in the English language. Those who have difficulty in their verbal and/or oral communications should expect to seek remediation before beginning their internship.

Speech competency is required of all students in the teacher education programs. At least two quarters prior to the Internship, a student must complete one of the following speech courses or its equivalent with a grade of B- or better:

- Comm 101 (4) Fundamentals of Speech
- Comm 312 (3) Speech for the Teacher
- Comm 235 (4) Exposition and Argumentation (Secondary candidates only)

- Comm 454 (3) Speech for Elementary Teacher (Elementary candidates only)
- Comm 331 (3) Advanced Public Speaking (by permission of instructor only)

Students are encouraged to meet the speech competency requirement *before* beginning the professional program.

Common classroom equipment certification is a requirement of all teacher education programs. Students are required to become familiar with and demonstrate capability to operate such items as slide and film projectors, video recording and playing equipment, and audio recorders. Visit the Learning Resources Laboratory, Miller Hall 75, for more information.

Mathematics prerequisites: Math 481 is required of all students pursuing elementary or special education certification as part of their professional program. Math 281 is the prerequisite to Math 481, and students are advised to complete Math 281 *before* beginning the education sequence.

NOTE: Math 281 satisfies the General University Requirement in math.

PROGRAM AND SEQUENCE

Advisement

Each student is assigned an adviser when admitted to the College of Education. Students schedule an appointment to meet with an adviser before beginning the education sequence. Appointments may be arranged by contacting the following offices:

- Elementary Education
Miller Hall 251, (206) 676-3336
- Secondary Education
Miller Hall 306, (206) 676-3327
- Special Education
Miller Hall 318, (206) 676-3330
- K-12 Programs
Miller Hall 306, (206) 676-3327

Students who are interested in education, but who have not applied for admission to the College of Educa-

tion, may talk with an adviser by contacting the program area office of their interest.

Program Standards

Students who have been admitted into the College of Education must maintain a 2.75 cumulative GPA in courses taken at Western. If a student's cumulative GPA falls below 2.75, the student will be dropped from the teacher education program.

Grade point requirements for the academic major or minor may differ between departments.

In certain situations, a case conference may be called by the program head to determine the student's qualifications for admission or retention.

PROGRAM AREAS IN CURRICULUM AND INSTRUCTION

Secondary Program

Program Area Head:

Dr. Marian Tonjes

Office: Miller Hall 306

Telephone: (206) 676-3327

The Secondary Education professional program leads to initial certification at the 4-12 level when combined with an approved major. Students will be certified to teach *only* in their endorsed areas. For a list of approved major areas for the Secondary certificate, see the Certificates and Endorsements section above. Students who wish to pursue both certification and a concurrent Master of Education degree should consult the Graduate School section of this catalog and the secondary graduate program adviser.

Requirements for completion of the professional program in Secondary Education are outlined below. The Secondary program begins fall and winter quarters only.

Program Standards

Students admitted must maintain a 2.75 GPA in the professional studies

program and successfully complete a minimum of one professional studies course each calendar year. Those who do not meet this requirement will be dropped and must reapply to Secondary Education before continuing with professional studies courses.

Secondary Education Professional Program 63 credits

The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core 19 credits

- Psychological Foundations
 - Psych 351
 - Psych 353
- Philosophical Foundations
 - EdAF 310
 - EdAF 411
- Instructional Foundations
 - EdCI 363

Secondary Program 16 credits

- EdCI 471, 471a
- EdCI 472, 472a
- EdCI 484 or 481

Secondary Program Internship 24 credits

- EdCI 495

Elementary Program

Program Area Head:

Dr. John Towner

Office: Miller Hall 251

Telephone: (206) 676-3336

The Elementary program leads to initial certification at the K-8 level when combined with an approved major.

Requirements for completion of the professional program in Elementary Education are outlined below. The Elementary program begins fall and spring quarters only.

Elementary Education Professional Program 77-79 credits

This program leads to a K-8 certificate and must be accompanied by an approved major for Elementary can-

didates. The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core 25 credits

- Psychological Foundations
 - Psych 351
 - Psych 352
- Philosophical Foundations
 - EdAF 310
 - EdAF 411
- Instructional Foundations
 - EdCI 363
 - EdCI 320
 - EdCI 469 or 429

Elementary Program — Methods and Curriculum Content 28-30 credits

- Art 380
- Music 361
- Math 481
 - Note: Math 281 is a prerequisite for Math 481.
- PE 306
- Sci Ed 390
- Sci Ed 391
- Soc St 425
- Eng 440 or EdCI 424
- EdCI 485

Elementary Internship 24 credits minimum

- EdCI 394
- EdCI 494

NOTE: The Elementary Program was in the process of change at the time of catalog printing. For more information contact the office in Miller Hall 251.

Elementary Education Supporting Endorsements

Supporting Endorsement — Elementary Education K-8

Admission Requirements

- Valid Washington State Teaching Certificate
- An approved liberal arts major of at least 45 quarter credits
- Course work in child growth and development
- Course work in classroom organization and management

Course Requirements

- Soc St 425
- Sci Ed 390
- Sci Ed 391
- EdCI 485
- PE 306
- Music 361
- Art 380
- Eng 440 or EdCI 424
- Math 481
- EdCI 591
- Health Ed 455

Minor/Endorsement — Early Childhood Education

24-26 credits

Program Adviser: Dr. Suzanne Krogh

This program leads to a supporting endorsement (P-3) in Early Childhood Education to be added only to an Elementary certification.

Early Childhood Program

16-21 credits

- EdCI 431 or 531
- EdCI 331 or 534
- EdCI 489 or 589
- EdCI 432 or 433
- EdCI 390 or 592d

Early Childhood Electives

- By advisement to total a minimum of 24 credits in the minor.

Supporting Endorsement

Reading 24 credits minimum

Program Adviser: Dr. H. O. Beldin

This program covers the designated essential areas of study for the supporting endorsement (K-12) in Reading to be added to an Elementary or Secondary teaching certificate.

Essential Areas of Study

- Reading Development
 - EdCI 385 or 489
- Reading Diagnosis and Prescription
 - EdCI 486 or 594e.f
 - EdCI 460 or 560
- Children and Adolescent Literature
 - Lib Sci 405 or 407 or Eng 441 or 444 or EdCI 583

Educational Curriculum & Instruction

- Instructional Methods in Reading
—EdCI 485 or 587 or 481 or 485/485a or 583
- Instructional Methods in Content Reading
—EdCI 484

To fit individual needs, all courses should be selected after advisement. Courses applied toward endorsement may combine undergraduate and graduate credits and courses from different institutions.

K-12 Program

Program Adviser: Dr. Lee Dallas

This program leads to a K-12 specialist certificate and must be accompanied by an approved K-12 major in a specialty area. Approved majors are art, foreign languages, music and physical education. (See appropriate catalog section for description.)

K-12 Professional Program

60 credits

Professional Studies Core 19 credits

- Psychological Foundations
—Psych 351
—Psych 352 or 353
- Philosophical Foundations
—EdAF 310
—EdAF 411
- Instructional Foundations
—EdCI 363

K-12 Program 17 credits

- EdCI 471
- EdCI 472, 472a
- EdCI 484 or 481 or 485 or 488
- EdCI 422

K-12 Internship 24 credits

- EdCI 494 or 495

Special Education Program

Program Area Head: Dr. Sheila Fox
Office: Miller Hall 318
Telephone: (206) 676-3330

Special Education may be combined as an endorsement with a Secondary

certificate (4-12) or an Elementary certificate (K-8) or taken as a certification sequence in either Special Education (K-12) or Preschool through Third Grade (P-3).

See an adviser in the Special Education Office for details about each program.

Special Education candidates who already possess a bachelor's degree should consult the Graduate School section of this catalog (M.Ed. Exceptional Children program) and then see a Special Education adviser.

Special Education Major

45-48 credits

This program may be completed as a major with an Elementary certificate or as part of the K-12 Special Education certificate.

- EdCI 360, 460, 461a, 461b, 462, 463, 465, 466, 469, 470
- Seven credits of electives selected from: EdCI 361, 468, 435, or by advisement.

K-12 Special Education Only

When taken with the Special Education major, this program leads to a certificate to teach Special Education K-12 only. Graduates are not qualified to teach in the regular education classroom. The major must be accompanied by a 30-credit concentration in a liberal arts area. See an adviser for additional information.

Professional Studies Core 16 credits

- Psychological Foundations
—Psych 351, 316
- Philosophical Foundations
—EdAF 310
- Instructional Foundations
—EdCI 320

General Methods 19 credits

- Math 481
- EdCI 472, 422, 485
- EdCI 424 or English 440

Special Education Internship

16 credits

- EdCI 498b or 498c

Special Education with Elementary Certificate 68-69 credits

Students wishing to complete the Elementary certificate with a Special Education major and endorsement also must complete the following professional course work:

Professional Studies Core 15-16 credits

- Psychological Foundations
—Psych 351
—Psych 316 or 352
- Philosophical Foundations
—EdAF 310
- Instructional Foundations
—EdCI 320

Elementary Program 29 credits

- Health Ed 455
- Sci Ed 390, 391
- Math 481 (Note: Math 281 is prerequisite to 481)
- Soc St 425
- Eng 440 or EdCI 424
- EdCI 485
- Two of the following: Music 361, Art 380, PE 306

- Internship 16 credits
A combined Elementary and Special Education internship of one quarter.

Special Education with Secondary Certificate 74 credits

This major leads to a certificate and endorsements to teach Special Education (K-12) and regular Secondary (4-12) programs. It must be accompanied by an approved major for Secondary candidates.

Professional Studies Core 18 credits

- Psychological Foundations
—Psych 316, 351
- Philosophical Foundations
—EdAF 310
- Instructional Foundations
—EdCI 360, 320

Secondary Program 12 credits

- EdCI 485
- EdCI 481 or 484
- EdCI 472

Educational Curriculum & Instruction

Special Education 20 credits
 EdCI 361, 461a, 461b, 462, 466, 469

Combined Internship 24 credits
 EdCI 495, 498c

Supporting Endorsement — Special Education K-12

Admission Requirements

- Valid Washington State teaching certificate

Course Requirements

- Special Education Core
—EdCI 360, 361, 462, 461a, 461b, 466
—One Special Education elective course, under advisement
- Reading Requirements
—Two courses selected from EdCI 485, 481, 484
- Internship
—EdCI 498 (4-16 credits, by advisement).

INTERNSHIP

An important experience for teaching certification candidates is the internship. Depending on program area, internships last either one quarter or one semester. Students in semester internships will register for credits in two consecutive quarters.

NOTE: At the time of catalog printing, new integrated internships were under development. See an adviser for further information.

Students must sign up for their internship experience at least two quarters prior to the internship. **An adviser's signature is required for application for the internship.** Students are required to interview with the public school teacher to whom they have been assigned for final approval.

During the internship, students teach under the direct supervision of a certified teacher in a school setting. They have intensive practice in integrating methods, content area knowledge and classroom organiza-

tional strategies. For the final portion of the internship, students take full responsibility for their classrooms.

The Office of Field Experiences is the service agency of the College of Education which seeks placements for prospective interns. It does not guarantee placements. Placement in a school is contingent on:

- Meeting all requirements (satisfactory academic work and practica and faculty recommendation)
- Availability of placements in specific grade/subject areas
- Acceptance by K-12 school personnel

A maximum of three initial interviews for placement are arranged by the Office of Field Experiences.

Any subsequent placement after a voluntary or non-voluntary withdrawal from an internship is granted only by faculty recommendation following a case conference.

Time Involvement of interns is considered full-time and normally requires seven clock hours plus class preparation time, seminars and evaluation time spent outside of school. Students may not register for other course work during their internship. Outside work or other time-demanding commitments must be approved by the program area head and Office of Field Experiences.

Placement locations are listed on the student intern application available in the program area office or the Office of Field Experiences. The Office of Field Experiences reserves the right to place students anywhere within the WWU service area.

CERTIFICATION

Initial Teacher Certification

The Initial Certificate is awarded to candidates who hold a baccalaureate degree from an accredited college or university and who receive a recommendation for certification from a college of education. The candidate

must satisfy the following:

- Completion of a professional studies program
- Completion of a baccalaureate degree program with an endor-sable major in an appropriate discipline
- A cumulative grade point average of 2.75
- Current U.S. citizenship or declaration of intent to become a U.S. citizen
- Washington State Patrol clearance

The Initial Certificate is endorsed for both grade level and subject matter area. Initial Certificates issued prior to August 31, 1992, will be valid for four years and may be renewed once for a three-year period provided state criteria are met. Initial Certificates issued after August 31, 1992, will be valid for two years and may be renewed for three years if the candidate has been admitted to a master's degree program and may be renewed for an additional two years if half of the master's degree program has been completed.

For further information, contact the Woodring College of Education Admissions and Advisement Office, phone (206) 676-3378, Miller Hall 206E.

Continuing/Professional Certification

The Continuing Certificate is required by the State of Washington of all career teachers. To earn the Continuing Certificate, the teacher must satisfy three requirements:

- At least two teaching endorsements
- Teaching experience
- College credit requirement

Until August 31, 1992, the teaching experience requirement may be met by 180 days of teaching. Substitute teaching may be counted provided at least 30 days are in the same school district. There will be a change made in this teaching requirement by the

State Board of Education that will be in effect after August 31, 1992.

The College credit requirement may be met by completing 45 credits under advisement. **After August 31, 1992, a master's degree will be required.**

The Continuing Certificate is valid as long as the teacher is in educational service and meets state requirements for formal course work.

For further information, contact the Woodring College of Education Certification Office, phone (206) 676-3388, Miller Hall 319, or phone (206) 676-3416, Miller Hall 301.

The following criteria must be met to receive a recommendation for continuing certification from Western:

1. A plan of study must be filed with the College of Education. Approval of the plan of study by the candidate's supervisory principal or administrator is required.

All planned course work must be taken post-baccalaureate and be upper-division (300-400) or graduate level unless it is to be counted toward the addition of a supporting endorsement.

2. At least half of the program shall be earned through Western; the remaining credits may be earned under WWU advisement through other approved four-year institutions. Correspondence study is allowed.
3. No grades below C are acceptable for certification purposes. If a course is taken on the Pass/Fail system, the candidate's instructor must provide a statement that the Pass represented a C or better.

When all requirements have been met, formal application for the Continuing Certificate may be made through the Woodring College of Education Continuing Certification Office, Miller Hall 319, phone (206) 676-3388, or Miller Hall 301, phone (206) 676-3416.

A master's degree will be required for continuing certification after August 31, 1992. Current state rules allow any master's degree to meet this requirement. Persons interested in pursuing a master's degree and the Continuing Certificate concurrently also should contact the Graduate School for information on available graduate programs.

Alternative Certification

An alternative certification program in conjunction with a proposed new Washington state statute was under development at the time of catalog printing. For more information, direct inquiries to the Chair, Department of Curriculum and Instruction, Miller Hall 206, or to the Certification Officer, Miller Hall 301.

INTERDISCIPLINARY PROGRAMS

Program Advisers:

Dr. Frederick Grote
Dr. Suzanne Krogh
Dr. Marcia Lippman
Dr. Kristine Slentz

Major — Child Development

45 credits

The Child Development major is an academic major offered through the Woodring College of Education. All other academic majors are housed in their respective departments.

This major must be taken with either the Elementary or Special Education Certification program. The major is organized into topical strands of child development. Selections of options under each topic should be made in consultation with an adviser.

Core 34-41 credits

- Learning
—Psych 351 or 321
- Development
—Psych 352 or 316

Educational Curriculum & Instruction

- Motor Development
—PE 485
- Language Development
—SPA 354 or EdCI 489 or Eng 442
- Exceptional Children in the Classroom
—EdCI 363
- Child in the Family
—Psych 355
- Child and Family in Society and Culture (select two):
—EdCI 435
—Soc 360 or 369 or 380 or Anth 351 or 481 or 484
- Statistics
—Psych 306 or Soc 210
- Advanced Topics in Developmental Psychology
—Psych 456a or 456b or 456d

Elective Topics

(Electives to total 45 credits.)

- Sex Roles
—Psych 219 or Anth 353 or Soc 368
- Life Span Development
—EdCI 431 or Psych 353 or 357 or Soc 333 or 380
- Advanced Topics
—Psych 456a or 456b or 456c or 456d

Major — Early Childhood

Special Education 75-79 credits
with certification 97-103 credits

This major is designed to prepare personnel to work with children ages birth to eight years who are identified as at-risk for developmental delay and disability, and their families.

The course of study may be completed with or without P-3 (preschool through 3rd grade) Special Education certification. Teacher certification candidates must complete a student teaching internship and select electives to complete a 30-credit concentration in Child Development.

Professional Studies Core 16 credits

- Psychological Foundations
—Psych 351, 316
- Philosophical Foundations
—EdAF 310

- Instructional Foundations
—EdCI 320

Early Childhood Program 28 credits

- EdCI 331, 390, 431, 432, 433, 467a
- Soc 360 or HS 355
- PE 485b
- SPA 354

Special Education Program

23 credits

- EdCI 360, 461a, 461b, 462, 466, 467b, 469

Plus 8-12 additional elective credits, under advisement, from psychology, sociology, anthropology, speech pathology/audiology, educational curriculum and instruction

Internship 22-24 credits

- EdCI 465, 498

COURSES IN EDUCATIONAL CURRICULUM & INSTRUCTION

Courses numbered X37; X97; 300, 400; 417, 445 are described on pages 38-39 of this catalog.

KEY TO COURSE NUMBERS: The first digit follows the University policy of numbering for the year in which the course is normally taken. The second digit signifies the following course groups:

- 0 Introductory
- 2 Curriculum and Instruction
- 3 Child and Youth Education
- 6 Special Education and the Disadvantaged
- 7 Secondary Education
- 8 Reading
- 9 Supervised Teaching or Practicums

(See the Psychology Department section in this catalog for courses in educational psychology.)

- 131 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (3)
Review of the field in terms of history, philosophy, and professional opportunities; observation of young children.
- 320 EFFECTIVE TEACHING (3)
Prereq: admission to the College of Education or permission of the instructor and concurrent enrollment in EdCI 360 or 363. Teacher behaviors positively affecting student achievement. S/U grading.
- 331 CREATIVE LEARNING EXPERIENCES IN EARLY CHILDHOOD EDUCATION (3)
Materials and teaching strategies designed to elicit creative responses in young children through storytelling, art, music, body movement, puppetry, creative dramatics, etc.

- 360 INTRODUCTION TO EXCEPTIONAL CHILDREN (3)
An introduction to the special instructional needs of handicapped and gifted children.
- 361 PRACTICUM IN SPECIAL EDUCATION (3)
Prereq: EdCI 360 or permission of instructor. Observing and participating in recreational and educational activities with exceptional children, youth, and adults.
- 363 EXCEPTIONAL CHILDREN IN THE CLASSROOM (3)
Prereq: admission to the College of Education or permission of instructor. Introduction to the characteristics and needs of exceptional learners; pertinent federal and state laws; curricular and behavior management adaptations in the regular classroom; assessment of learning problems; instructional techniques; behavior management strategies.
- 385 FOUNDATIONS OF READING INSTRUCTION (2)
Exploration of the reading process; principles underlying the teaching of reading.
- 390 PROFESSIONAL PRACTICUM AND SEMINAR (3)
Prereq: permission of instructor. Observation, participation and related seminars to enable each student to make a suitable professional decision. S/U grading.
- 394 ELEMENTARY PRACTICUM (2-8)
Prereq: admission to the College of Education. Introductory practicum. Successful completion is necessary for recommendation to supervised teaching. S/U grading.
- 395a ELEMENTARY SEMINAR AND PRACTICUM I (2)
Prereq: admission to College of Education and concurrent with Psych 351 and 352. Guided observation and participation in elementary and/or middle schools with related seminars. Emphasis on study of children and their behaviors. Requires three hours per week of observation and participation in an assigned elementary classroom. S/U grading.
- 395b ELEMENTARY SEMINAR AND PRACTICUM II (2)
Prereq: EdCI 395a and concurrent enrollment in EdAF 310. Guided observation and participation in elementary and/or middle schools with related seminars. Emphasis on study of teaching behaviors. Requires three hours per week of observation and participation in an assigned elementary classroom. S/U grading.
- 396 PRE-INTERNSHIP SEMINAR (2)
Prereq: eligibility for internship. Lesson and unit planning, classroom management and discipline, professionalism, interpersonal relationships, and working with parents and school personnel S/U grading.
- 421 INSTRUCTION IN THE ELEMENTARY SCHOOL (1-5)
Organizing learning experiences, selecting methods or processes and materials appropriate to the maturation and rate of development of children.
- 422 THE ELEMENTARY CURRICULUM (3)
Historical and analytical study of the curriculum of the elementary school.
- 423c,d CURRICULA IN BASIC LANGUAGE ARTS SKILLS IN SECONDARY SCHOOLS (3)
Prereq: admission to a professional studies program. Designed for those who will be working in development and implementation of curricula to meet new accountability standards. Involves study of these standards and work with actual public school materials.
- 424 LANGUAGE ARTS IN THE ELEMENTARY CURRICULUM (4)
Functions and programs of language arts in the curriculum including reading, writing, speaking, listening.
- 426a,b SOCIAL STUDIES IN THE ELEMENTARY CURRICULUM (4)
Functions, programs, and materials in the social studies. Letters indicate grade level of emphasis in various sections of the course:
(a) Primary
(b) Intermediate
- 426c,d SOCIAL STUDIES IN THE SECONDARY CURRICULUM (3)
Prereq: teaching experience or permission of department. Functions, programs, and materials in the social studies. Letters indicate grade level of emphasis in various sections of the course:
(c) Junior High - Middle School
(d) Senior High
- 429 DISCIPLINE IN THE ELEMENTARY SCHOOL (3)
Development of teaching strategies designed to prevent and/or solve behavior problems; analysis of related child development and learning theory.
- 431 EDUCATION OF THE YOUNG CHILD (4)
Prereq: permission of instructor. An in-depth study of the historical and philosophical bases of the education of young children and an examination of psychological principles as they relate to current programs.

Educational Curriculum & Instruction

- 432 NURSERY EDUCATION (3)**
Prereq: EdCI 431 or permission of instructor. Development of curriculum for nursery school age children, emphasizing experiences which develop language, perceptual, motor, creative and interpersonal competencies.
- 433 KINDERGARTEN AND PRIMARY EDUCATION (3)**
Prereq permission of instructor. Historical background; recent trends; organization of facilities and materials for kindergarten and primary programs; curriculum development based upon research in this area.
- 435 CHILD ABUSE AND NEGLECT (1-3)**
Development of skills for working with children from abusive or neglectful home environments. Content will deal with helping educators help children increase their self esteem and cope with their environments.
- 438 SCHOOL-HOME-COMMUNITY RELATIONSHIPS (1-3)**
Problems of communication and interaction among teachers, parents, and paraprofessionals, administrators, and community, conferencing, planning meetings, community survey, PR publications, use of mass media.
- 439 IMPROVEMENT OF WRITING SKILLS FOR CHILDREN (2-4)**
Appropriate sequence of skills in composition for children; techniques implementing creative writing and improving fundamental skills.
- 441 ANALYSIS AND STRATEGIES OF TEACHING (3-5)**
Prereq: one course from the educational psychology or foundations area, or permission of instructor. Systematic study of teaching; observation; analysis and development of teaching skills and strategies; individual projects.
- 442 WORKING WITH STUDENT TEACHERS (3)**
Prereq teaching experience. Techniques for the orientation of student teachers, major problems which confront student teachers, and evaluation of their achievement.
- 458 MANAGING CONFLICT AND STRESS IN TEACHING (1-3)**
Prereq: teaching experience. Examines the relationships among conflict, stress and health. Coping and managing techniques are emphasized. Also includes self-assessment methods necessary to diagnose stressors in the work setting, etc.
- 460 LEARNING DISABILITIES (4)**
Prereq: EdCI 360. Theoretical background assessment and instructional procedures for the learning disabled student.
- 461a ASSESSMENT AND EVALUATION I (3)**
Prereq: EdCI 462 or permission of instructor; concurrent enrollment with EdCI 465. Assessment of pupil performance, selection of teaching strategies and evaluation using fluency as one of the parameters.
- 461b ASSESSMENT AND EVALUATION II (3)**
Prereq: EdCI 461a; concurrent enrollment with EdCI 465. Use of individualized teaching strategies and evaluation using curriculum-based assessment and precision teaching.
- 462 CURRICULUM AND METHODS IN SPECIAL EDUCATION (5)**
Prereq: EdCI 360, 361 or permission; concurrent with EdCI 465. Curriculum selection and adaptation of methods and materials for exceptional children and youth. Includes direct instruction, pre-vocational and vocational programming and transition services, survey and adaptation of instructional materials, task analysis and classroom management.
- 463 EDUCATION OF BEHAVIOR DISORDERED CHILDREN (4)**
Prereq: EdCI 360. Assessment, methods and curriculum for behavior disordered children. Emphasis on social skills training.
- 464 TEACHING UNDERACHIEVING STUDENTS (1-4)**
Methods for teachers of children who are underachieving in school because of differences in their cultural/experiential backgrounds or capabilities. Oriented toward children with special needs, including able learners.
- 465 PUBLIC SCHOOL PRACTICUM (2)**
Prereq: concurrent with EdCI 461a or 461b or 462 or other education methods course with practicum requirements. Practicum experience in a school setting. Designed to provide students with a continuing quarter-to-quarter placement in a school where the requirements of courses with practicum assignments can be met while students obtain in-depth experience in a single school environment. Repeatable to 8 credits.
- 466 FAMILIES, PROFESSIONALS AND EXCEPTIONAL CHILDREN (3)**
Prereq: EdCI 360 462. Techniques for communicating with and counseling handicapped and gifted children and their parents, and working with interdisciplinary teams.
- 467a TYPICAL AND ATYPICAL EARLY DEVELOPMENT (3)**
Prereq: EdCI 360 or permission of instructor. Typical sequences of development from birth to age eight, and educational implications of atypical patterns.

- 467b **INTRODUCTION TO EARLY CHILDHOOD SPECIAL EDUCATION (3)**
Prereq: EdCI 360 or 431. Addresses Early Childhood Special Education as a unique speciality area with foundations in both Early Childhood and Special Education traditions. Philosophy, intervention strategies, populations, service delivery approaches and legal issues are presented as a comprehensive overview of the field. Designed for students who have prior course work in either Early Childhood or Special Education.
- 463 **EDUCATION FOR THE GIFTED AND TALENTED (4)**
Prereq: EdCI 360 or permission of instructor. Exploration of characteristics, identification and special needs of the gifted and talented. In-depth analysis of the application of major theoretical models to the development of programs and curricula for the gifted and talented.
- 469 **BEHAVIOR MANAGEMENT (3)**
Prereq: EdCI 360 or permission of instructor. Behavior management strategies with an emphasis on applied behavior analysis, cognitive strategies and teacher behaviors that enhance pupil motivation.
- 470 **STUDENTS AT RISK (4)**
Prereq: admission to College of Education or permission of instructor. Exploration of characteristics, identification and special needs of students who are at risk for academic and/or social failure in school due to chemical dependence issues, bilingualism, poverty, dysfunctional family situations or other factors that may interfere with a student's ability to succeed. Strategies that combine the skills of special and regular education teachers will be analyzed.
- 471 **INSTRUCTION IN SECONDARY SCHOOLS (4)**
Prereq: concurrent with EdCI 471a for all students except those completing the K-12 certification program. Secondary curricula, lesson planning, instructional theory into practice, school structure.
- 471a **PRACTICUM (2)**
Prereq: concurrent with EdCI 471. Observing and assisting within classrooms, interviewing elementary/middle/high school personnel, peer teaching. S/U grading.
- 472 **SECONDARY SCHOOL MANAGEMENT, INSTRUCTION AND EVALUATION (4)**
Prereq: EdCI 471 or permission. Diagnostic techniques, models of instruction, questioning skills, measurement, discipline, management, and peer teaching.
- 472a **SECONDARY SCHOOL PRACTICUM (2)**
Prereq: concurrent with EdCI 472. Students serve as teaching assistants in assigned public schools 4-5 hours each week; some small group and large group instruction. S/U grading.
- 475 **EVALUATING PUPIL GROWTH (3)**
Prereq: teaching experience or permission of instructor; for experienced teachers and research workers. Evaluative techniques related to significant or complex objectives; assessing outcomes of innovative teaching.
- 480 **CONFERENCE IN READING (1-3)**
Prereq: teaching experience. Repeatable with different themes.
- 481 **DEVELOPMENTAL READING IN THE SECONDARY SCHOOL (4)**
For pre-service and experienced classroom teachers, grades 6-12. Developmental reading skills, reading skills specific to content areas, and basic study skills. Not a course in remedial reading.
- 484 **THE TEACHING OF READING IN CONTENT FIELDS (4)**
Techniques of teaching reading and applying reading to study skills in social sciences, mathematics, English and other content areas in upper intermediate and secondary grades.
- 485 **BASIC READING INSTRUCTION (3-4)**
Basic reading instruction in grades K-8: methods and materials for teaching reading, reading readiness; word attack skills, word reading skills, comprehension skills; grouping; lesson planning.
- 485a **PRACTICUM IN BASIC READING INSTRUCTION (4)**
Prereq: concurrent enrollment in off-campus section of EdCI 485. Practice in offering basic reading instruction in grades K-8. Methods and materials for teaching reading in areas of readiness, word attack skills and comprehension. Lesson plans developed and used with specific children. Evaluation of trade books and reading achievement.
- 486 **PROBLEMS IN CORRECTIVE READING INSTRUCTION (4)**
Prereq: permission of instructor. Analysis, correction, and prevention of reading problems; refinement of group and informal testing, supervised practicum with pupils having mild disabilities in reading.
- 488 **INDIVIDUALIZED READING INSTRUCTION (1-5)**
Principles and practices of individualized reading with emphasis on problems in organizing classroom programs for meeting individual interests and needs.

Educational Curriculum & Instruction

489 LANGUAGE STRUCTURE AND READING DEVELOPMENT (4)

Prereq: EdCI 385. Examines the structure of language and its development in children with consideration of how this structure and development are critical to effective reading instruction.

SUPERVISED LABORATORY TEACHING — Courses EdCI 490-496 and 498a,b,c offer varied opportunities for laboratory study in the classroom and for student teaching. Practice in the classroom is an integral part of professional preparation.

490 OBSERVATION AND PARTICIPATION (2-3)

Prereq: permission of department. Guided observation of experienced teachers and limited participation in teaching situations. S/U grading.

490a SEPTEMBER EXPERIENCE (2-3)

Prereq: permission of department. Observation and participation in the opening of school. S/U grading.

493e,f INDIVIDUALIZED INSTRUCTION IN READING — LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (6 ea)

Integration of reading, writing, speaking, listening and use of children's books as functional tools of the communication process; laboratory experience in developing individualized language activities with children in school settings. S/U grading.

494 INTERNSHIP — ELEMENTARY (2-18)

Prereq: recommendation for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the primary and/or intermediate grades. Repeatable to 24 credits. S/U grading.

494a INTERNSHIP—EARLY CHILDHOOD EDUCATION (2-24)

Prereq: recommendation for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the pre-primary or primary level. Repeatable to 24 credits. S/U grading.

495 INTERNSHIP — SECONDARY (2-18)

Prereq: recommendation for supervised teaching. Supervised teaching experience. Develop and demonstrate teaching competence at the junior high/middle school or senior high school level. Repeatable to 24 credits. S/U grading.

496 PRACTICUM IN DIAGNOSIS AND PRESCRIPTION IN TEACHING (2-3)

Prereq: teaching experience. Defining objectives behaviorally; developing sequential learning activities; analyzing pupil readiness; prescribing appropriate strategies for continuous individual progress; applications with students in classrooms. Repeatable with varied content to 9 credits.

498abc INTERNSHIP — EXCEPTIONAL CHILDREN (2-18 ea)

- (a) Early Childhood
- (b) Elementary
- (c) Secondary

Prereq: recommendation for supervised teaching. Supervised teaching experience. Develop and demonstrate teaching competence for exceptional children. Repeatable to 24 credits. S/U grading.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on pages 38-39 of this catalog.

Admission to Graduate School or special permission required. See the Graduate School section of this catalog.

502a,b,c,d COMPETENCIES FOR CONTINUING CERTIFICATION (3 ea)

Prereq: teaching experience. Demonstrations of minimum generic competencies required for Continuing Certification of teachers.

- a. Staff development and supervision.
- b. Referral agencies and resource personnel.
- c. Knowledge of grade level alternate to that endorsed for initial certification.
- d. Research and evaluation for the classroom teacher.

(Some MED programs include one or more of the required generic competencies. Candidates should check with advisers.) S/U grading.

NOTE: These courses are not applicable to a master's degree. They are for continuing certification only.

518 CURRENT ISSUES IN EDUCATION (1-5)

Prereq: graduate status or permission of instructor. Examination and discussion of several current and controversial issues in any of the following areas: (a) elementary education; (b) early childhood education; (c) reading; (d) secondary education; (e) special education.

Educational Curriculum & Instruction

- 518f **TEACHING AND ADMINISTERING IN BRITISH SCHOOLS: K-12 (3)**
Practicum of education in Oxfordshire, England, schools. Preparation includes reading, test questions, research paper assignment spring quarter. Practicum requires supervised team teaching and/or administering in an Oxfordshire school for one week.
- 518g **SUMMER STUDY IN ENGLAND (6)**
Lectures and experiences in philosophy, administration, culture, history and curriculum integration at Oriol College, Oxford. Seminars on how principles and practices in the U.K. can be adapted to the context of U.S. schools. Culminating project is required.
- 521 **SEMINAR IN ELEMENTARY CURRICULUM (4)**
Prereq: teaching experience or permission of instructor. Advanced study of curriculum planning and development, including design, materials and problems in curriculum change. Independent research will be expected.
- 522a **CURRICULUM IN THE SECONDARY SCHOOLS (4)**
Prereq: admission to graduate program or permission of program adviser. Historical and philosophical perspectives on school curriculum as these relate to modern curricula. This course is designed for candidates for M.Ed. degrees in secondary school curriculum. Recommended for candidates in School Administration.
- 522b **SEMINAR IN SECONDARY CURRICULUM (4)**
Prereq: EdCI 522a or permission of program adviser. Planning and development of curriculum. Advanced study of curricular design, materials and adoption. Emphasis on current studies and trends. Independent research.
- 523 **TEACHING ADOLESCENTS (4)**
Prereq: permission of program adviser. Advanced study of adolescents, especially in educational settings. Use of case studies. Emphasis upon recent research.
- 524 **SEMINAR IN SECONDARY SCHOOL LANGUAGE ARTS CURRICULUM (2-4)**
Planning and developing curriculum in language, literature and composition. Advanced study in specialized curriculum design and materials.
- 531 **SEMINAR IN EARLY CHILDHOOD EDUCATION (4)**
Prereq: permission of instructor. In-depth exploration of programs, theories and significant recent research in early childhood education.
- 531a **ADVANCED SEMINAR IN EARLY CHILDHOOD EDUCATION (3)**
Prereq: EdCI 531, 596a. Specific problems will be drawn from the field and content organized according to student need.
- 533 **ADVANCED SEMINAR IN ELEMENTARY EDUCATION (4)**
Prereq: advancement to candidacy. Advanced study of individual research topics in elementary education.
- 534 **PLAY AND THE CHILD (4)**
Prereq: graduate status or teaching experience. Examination of the nature and role of play in the cognitive, affective, physical and social development of the child. Attention is given to the educative functions of play and implications of those functions for curriculum and instruction.
- 535 **RESEARCH ANALYSIS OF CURRENT ISSUES IN ELEMENTARY EDUCATION (4)**
Prereq: graduate status and EdAF 501. Examination and analysis of research underlying current issues and problems in elementary education.
- 539 **MASTER'S SEMINAR (4)**
Prereq: advancement to candidacy, EdAF 501, 512, 513, EdCI 521, 535. Preparation and presentation of a seminar paper on a problem or issue in education.
- 555 **MIDDLE SCHOOL CURRICULUM DESIGNS AND INSTRUCTIONAL STRATEGIES (2-6)**
Prereq: teaching experience. Current curriculum designs in middle school programs will be surveyed and selected elements analyzed. Appropriate instructional strategies necessary to facilitate these designs will be studied. The individual class member will select the study of some special major middle school development appropriate to his school curriculum and/or program. (May be repeated to a maximum of 6 credits.)
- 560 **SEMINAR IN SPECIAL EDUCATION (2-5)**
Prereq: graduate status or permission of instructor. Specific problems and methods for serving exceptional children. Content will vary from summer to summer; hence the course may be repeated for credit.
- 561 **ETIOLOGY AND LEGAL FOUNDATIONS OF SPECIAL EDUCATION (3)**
Prereq: admission to graduate program or permission. Etiology of handicapping conditions, service models and the laws that influence service and funding. Introduces foundations of assessment and evaluation, a theme developed later in the graduate sequence in the context of learning and social behavior development.

Educational Curriculum & Instruction

562 LEARNING PROBLEMS (4)

Prereq: admission to graduate program or permission. Information processing and learning theory as it applies to handicapped learners. Assessment and evaluation of cognitive strategies and academic skill development will be discussed.

563 CURRICULUM AND METHODS IN SPECIAL EDUCATION (3)

Prereq: admission to graduate program or permission. Models of curricular organization selection and adaptation of content to facilitate mainstreaming and instructional aids, including computers and adaptive equipment. Writing IEPs with computer assistance.

564 BEHAVIOR MANAGEMENT (3)

Prereq: admission to graduate program or permission. Applied behavior analysis and cognitive strategies for special education and high risk children. Assessment and evaluation of social skill development.

565 CONSULTATIVE TEACHING IN SPECIAL EDUCATION (4)

Prereq: admission to graduate program or permission of the instructor; concurrent enrollment in 565a. The consultative teacher's role in providing special education services to mainstreamed exceptional children with emphasis on skills needed to achieve that role.

565a PRACTICUM IN CONSULTATIVE TEACHING (3)

Prereq: concurrent enrollment in EdCI 565. Students will participate in a practicum with a master teacher or consultant who is operating in the specialist role.

566 COMMUNICATION SKILLS FOR SPECIAL EDUCATORS (4)

Prereq: admission to graduate program or permission. Roles of the special educator as a member or team leader of interdisciplinary teams; communication with parents about their exceptional children; working with professional colleagues in IEP meetings and informal settings. Practice of skills related to giving and receiving information with the community, parents, students and colleagues.

567 ADVANCED ISSUES IN SPECIAL EDUCATION (3)

Prereq: completion of 20 hours in the MED in Exceptionality or permission of the instructor. Intensive study of legal and ethical issues in special education.

568 CURRICULUM-BASED ASSESSMENT AND EVALUATION IN SPECIAL EDUCATION (4)

Prereq: admission to graduate school or permission of instructor. Information on the evaluation of instruction. Includes summative evaluation, development and analysis of behavior samples, data-based program modification, observation procedures and evaluation of program effectiveness.

569a PROGRAM DEVELOPMENT IN EARLY CHILDHOOD SPECIAL EDUCATION (3)

Prereq: admission to graduate school or permission of instructor. Current issues and best practices in Early Childhood Special Education (ECSE) program design and implementation. Includes historical, legal and procedural foundations, populations of children served, alternative service models, environmental design, program content, fiscal and personnel trends, family-centered approaches and interagency/interdisciplinary collaboration. Emphasis on model programs, trends, and applied research in the field.

569b ASSESSMENT AND EVALUATION IN EARLY CHILDHOOD SPECIAL EDUCATION (4)

Prereq: admission to graduate school or permission of instructor. Issues and resources for accurate and appropriate assessment of young children with special needs. Current best practices in instructionally relevant assessment, monitoring child progress and evaluating overall program success. Alternative strategies for assessing the very young child, family needs and special populations. Emphasis on critical evaluation of instruments, psychometric adequacy, and technical aspects of test development and utilization with young special needs children.

569c CURRICULUM DEVELOPMENT IN EARLY CHILDHOOD SPECIAL EDUCATION (3)

Prereq: admission to graduate school or permission of instructor. Curriculum development and adaptation for the youngest children with special needs. Includes available resources, best practices with the developmentally young and activity-based interventions. Focus on model program curricular approaches, the use of daily routines and parent-child interaction as a context and content for intervention, and peer-mediated learning strategies. Emphasis on efficacy research and the impact of various curricular models.

- 571 **DISCIPLINE, MANAGEMENT AND MOTIVATION IN THE SECONDARY SCHOOL (4)**
 Prereq: admission to graduate school or permission of instructor. Current research on teacher effectiveness; systematic approaches, psychological bases, legal issues related to the creation of an effective, personally rewarding, learning environment in the middle and high school classroom.
- 583 **READING AND CHILDREN'S LITERATURE (4)**
 Prereq: teaching experience. Teaching basic reading skills through the use of children's books; selection and analysis of children's books in order to teach reading, from beginning or pre-word recognition levels through junior/senior high level.
- 584 **TEACHING THE INTEGRATED LANGUAGE ARTS (4)**
 Prereq: graduate status or teaching experience. Teaching activities designed to foster continuing development of literacy, in part, through stressing interrelationships between the various forms of language.
- 585 **SEMINAR IN READING EDUCATION (3-4)**
 Prereq: permission of instructor. Reading education research and its application to classroom practices, to individual problems in the teaching of reading, to supervision and administration of reading programs.
- 586 **SEMINAR FOR READING SPECIALISTS (4)**
 Prereq: advancement to candidacy or permission of instructor. Critical examination of issues in reading education in the areas of developmental reading, diagnosis/remediation of reading disabilities and content area reading. A summary course to be taken after other required course work in reading.
- 587 **IMPROVEMENT OF INSTRUCTION IN READING (4)**
 Prereq: at least one previous course in the teaching of reading or teaching experience. Teaching developmental reading; methods, materials, theory.
- 539 **SEMINAR IN LANGUAGE ACQUISITION AND READING DEVELOPMENT (4)**
 Prereq: graduate status or teaching experience. Exploration of current theories in language acquisition, linguistics, and psycholinguistics and implications for early childhood education and reading instruction.
- 590 **SEMINAR IN DEMONSTRATION TEACHING AND SUPERVISION (3)**
 Prereq: EdCI 442 or permission of department. Advanced studies in the principles of supervision; utilization of instructional resources and the evaluation and improvement of teaching.
- 591 **RESIDENCY IN ELEMENTARY TEACHING (8 or 16)**
 Recommended for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the primary and/or intermediate grades. May be repeated. S/U grading.
- 592d **FIELD EXPERIENCE IN EARLY CHILDHOOD EDUCATION (2-6)**
 Prereq: graduate status and permission of instructor. Supervised field experience in developing, directing and evaluating early childhood education programs.
- 592e **FIELD EXPERIENCE IN ELEMENTARY SCHOOL LEADERSHIP (2-6)**
 Prereq: permission of instructor. Designing, field testing and evaluating innovative school programs, practices and materials for the elementary school.
- 594e,f **PRACTICUM IN READING DIAGNOSIS AND REMEDIATION (4 ea)**
 Prereq: graduate status or permission of instructor.
 (e) Assessment and correction of reading difficulties: supervised practice in use of diagnostic reading tests.
 (f) Remedial instruction of children with reading problems: clinical practicum.
- 596a **ADVANCED PRACTICUM: EARLY CHILDHOOD EDUCATION (2-6)**
 Prereq: graduate status or permission of instructor. Individualized practicum in early childhood programs for experienced teachers. S/U grading.
- 596b **ADVANCED PRACTICUM IN TEACHING: ELEMENTARY SCHOOL (2-6)**
 Prereq: graduate status and 20 quarter hours of approved course work. Supervised experience for the improvement of teaching. Participants will select an area of concentration, develop plans and procedures for improvement of instruction, and submit a plan for classroom implementation and evaluation.



596c ADVANCED PRACTICUM: SECONDARY EDUCATION (2-6)

Prereq: graduate status and 20 quarter hours of approved course work. Supervised experience for the improvement of teaching in the secondary school. Participants will develop plans and procedures designed for the improvement of instruction and submit a plan to the course instructor and appropriate public school authority for classroom implementation and evaluation.

598a PRACTICUM IN SPECIAL EDUCATION (4)

Individualized leadership experience in programs for exceptional children; for students with teaching experience.

598b RESIDENCY IN SPECIAL EDUCATION (16)

Full-time residency placement in a special education environment in the public schools. Designed for those with no prior teaching experience. Students complete an applied research project.

599 FIELD STUDY OF ELEMENTARY EDUCATION IN ENGLAND (2-5)

Prereq: EdCI 499e,f. An in-depth study of the British primary school system with research focus on one specific aspect. Examines schools, philosophy, materials, environment and application to U.S. classrooms.

639 CURRENT TOPICS IN EDUCATION (1-5)

Prereq: master's degree and permission of instructor. Studies of current topics in any one of the following areas: (a) elementary education; (b) early childhood education; (c) reading; (d) secondary education; (e) special education.

686 ADVANCED SEMINAR FOR READING RESOURCE SPECIALISTS (4)

Prereq: master's degree and Initial ESA Certificate as a reading resource specialist; currently employed as reading specialist. Emphasis will be on problems faced by the reading specialist/consultant in working with children, parents, teachers, other specialists and administrators.

690a THESIS (1-9)

Prereq: approval of the student's graduate committee. Research study under the direction of a faculty committee; the thesis may be done off campus between periods of residence work. S/U grading.

690b FIELD PROJECT (1-9)

Prereq: approval of the student's graduate committee. Field project under the direction of a faculty committee; the field project may be done off campus between periods of residence work. S/U grading.

Off-Campus Education Centers

In cooperation with the Center for Regional Services and University Extended Programs, the Western Washington University Woodring College of Education offers a variety of services and programs at its three education centers. Each center is served by directors, advisers and support staff. These services are self-supporting and offered year-round. The Seattle Urban Center and the Everett Education Center are graduate resident centers, offering complete graduate programs.

EVERETT EDUCATION CENTER

The WWU Everett Education Center is located on the campus of Everett Community College. The Woodring College of Education offers the following programs at the Everett site:

Human Services: This program leads to a baccalaureate degree. Courses are offered in the afternoons and evenings. Curricular goals stress the continual interaction between theory and practice through purposeful integration of classroom concepts and internship placement experiences. For more information about this academic program, course descriptions and admission, refer to the Department of Educational Administration and Foundations section of this catalog.

Continuing Education for Teachers: A wide array of courses that lead to the M.Ed. and/or meet continuing certification requirements are offered. During the summer session, the Social Issues Institute, a series of workshops examining those social issues which impact education, is offered.

Information regarding programs, courses and class schedules is available at the WWU Everett Education

Center, 801 Wetmore, Everett, WA 98201, phone (206) 388-9438.

PORT ANGELES CENTER

The WWU Port Angeles Center is located on the campus of Peninsula College. The human services major is available to students who have completed Western's General University Requirements, either by transferable Associate of Arts degree or on a course-by-course basis. Courses are offered in the afternoons and evenings. Curricular goals stress the continual interaction between theory and practice through purposeful integration of classroom concepts and field placement experiences. For detailed information about this academic program, course descriptions and admission, refer to the Department of Educational Administration and Foundations section of this catalog.

Information regarding programs, courses and class schedules is available at the WWU Port Angeles Center, 1502 Lauridsen, Port Angeles, 98362, phone (206) 452-9277, extension 307.

SEATTLE URBAN CENTER

The Seattle Urban Center of Western Washington University is located in the North Annex of Seattle Central Community College.

Western's campus-based academic units use the Seattle Urban Center as a service facility through which they offer selected undergraduate and graduate degree and professional preparation programs plus other educational opportunities to Puget Sound area students bound to the Seattle area by work, family or other obligations.

Off-Campus Education Centers

Information regarding programs, courses and class schedules is available at the Seattle Urban Center, 1801 Broadway, Room NP 101, Seattle, WA 98122, phone (206) 464-6103 or SCAN 576-6103.

The College of Education offers programs at the Center on a regular basis. These programs are outlined below.

Department of Educational Administration and Foundations

Human Services Program — This major is an upper-division program within the Department of Educational Administration and Foundations leading to a B.A. degree. Curricular goals stress the continual interaction between theory and practice through purposeful integration of classroom concepts and internship placement experiences.

For detailed information about this academic program, course descriptions and admission, refer to the Department of Educational Administration and Foundations section of this catalog.

School Administration (Elementary, Secondary, Learning Resources) - (M.Ed.) — The School of Education offers an M.Ed. in School Administration plus course work leading to principal certification (initial or continuing) or the Certificate of Advanced Study (CAS). The School Administration program is designed to prepare elementary and secondary school personnel to assume the leadership roles of the principal or vice principal.

For detailed information about these programs, course descriptions and admissions, refer to the Graduate School section of this catalog.

Department of Educational Curriculum and Instruction

Teacher Education and Certification — The Seattle Urban Center offers a sequence of upper-division and



graduate courses leading to an Initial Teaching Certificate (Secondary) and the M.Ed. in secondary education. Most of the courses are offered in the evening, allowing candidates to work toward the certificate or degree on a part-time basis.

For detailed information about this program, course descriptions and admissions, refer to the Graduate School and Department of Educational Curriculum and Instruction sections of this catalog.

Supervised Teaching Internships — Local and main campus-based students are able to complete the internship requirement for the initial teaching certificate through the Seattle Urban Center. Careful advance planning is essential to avoid delays in internship placement, and candidates should contact the Office of Field Experiences, Department of Educational Curriculum and Instruction as early as possible.

Continuing Certification — A wide array of courses that satisfy the Continuing Certification requirements — including the master's degree — are offered through the Center. In addition to evening courses offered during the academic year, the Center also offers a variety of daytime summer courses. For a current list of offerings, consult the quarterly schedule from the Center for Regional Services or contact the Seattle Urban Center.

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Associate Professor Emeritus of Library Science. BA, New York College for Teachers; MA, Teachers College, Columbia University; BLS, MLS, School of Library Science, Columbia University.

ERWIN S. MAYER

Professor Emeritus of Economics. AB, Hunter College; PhD, University of Washington.

D. PETER MAZUR

Professor Emeritus of Sociology. BA, Stetson University; MA, University of Colorado; PhD, University of Washington.

MICHAEL K. MISCHAIKOW

Professor Emeritus of Economics. BA, School of Commerce and Finance; MBA Hochschule fuer Welthandel; MA, PhD, Indiana University.

HOWARD E. MITCHELL

Professor Emeritus of Economics. BA, Whitworth College; MA, PhD, University of Washington.

KURT W. MOERSCHNER

Associate Professor Emeritus of Foreign Languages and Literatures. BComm, BA, Sir George Williams University; MA (Psychology), MA (German), PhD, University of Colorado.

DONALD E. MOON

Associate Professor Emeritus of Technology. BS in Ed, California State College, California, Pa.; MA, Teachers College, Columbia University; EdD, Oregon State University.

KEITH A. MURRAY

Distinguished Service Professor Emeritus of History. BA, Whitworth College; MA, PhD, University of Washington.

FRANK A. NUGENT

Professor Emeritus of Psychology. BS, New Jersey State Teachers College; MA, Columbia University; PhD, University of California, Berkeley.

JAMES H. O'BRIEN

Professor Emeritus of English. BA, Seattle University; MA, PhD, University of Washington.

J. EVELYN ODOM

Associate Professor Emeritus of English. AB, Winthrop College; MA, Teachers College, Columbia University.

University Personnel

HAROLD O. PALMER

Professor Emeritus of Business Education. BA, College of Emporia, Kansas; EdM, University of Oregon; EdD, Oregon State University.

CHARLES E. PARAM

Professor Emeritus of Foreign Languages. BA, Oklahoma State University; MA, PhD, University of Arizona.

ROBERT A. PETERS

Professor Emeritus of English. BA, Ohio State University; MA, Western Reserve University; PhD, University of Pennsylvania.

HAZEL JEAN PLYMPTON

Associate Professor Emeritus of Art. PhD, University of Chicago; MA, Teachers College, Columbia University; Reed College; Portland School of Art.

SAM R. PORTER

Professor Emeritus of Technology. BA, Iowa State Teachers College; MA, Teachers College, Columbia University; EdD, University of Missouri.

AUGUST C. RADKE

Professor Emeritus of History. BA, MA, PhD, University of Washington.

DOROTHY E.A. RAMSLAND

Professor Emeritus of Home Economics. BS, University of Wisconsin; MS, PhD, Michigan State University.

CHARLES RANDALL, JR.

Associate Professor Emeritus of Physical Education. BA, Eastern Washington State College; MA, Washington State University.

FRANKLIN C. RANEY

Associate Professor Emeritus of Geography and Regional Planning. BS, University of Chicago; MS, Washington State University; PhD, University of California, Davis.

NICOLE B. RAPOZA

Associate Professor Emeritus of Foreign Languages and Literatures. BA, Long Beach State College; MA, PhD, University of California, Berkeley.

CHARLES M. RICE

Associate Professor Emeritus of Industrial Arts. BFA, MA, Washington State University; University of Washington; University of Oregon; Carnegie A.I.A. Art Sessions; EdD, Oregon State University.

PAUL L. ROLEY

Associate Professor Emeritus of History. BA, Illinois College; MA, Northwestern University; PhD, University of Illinois.

J. ALAN ROSS

Professor Emeritus of Education and Psychology. BA in Ed, Western Washington State College; MA, PhD, Yale University.

MARJORIE RYAN

Professor Emeritus of English. AB, MA, University of Michigan; PhD, University of Minnesota.

LEONARD SAVITCH

Associate Professor Emeritus of Education. BS, Pennsylvania State; MA, Teachers College, Columbia University; PhD, University of Washington.

DAVID B. SCHAUB

Professor Emeritus of Music. BA, MusB, Lawrence College; MA, Harvard University; PhD, University of California, Berkeley.

ERHART A. SCHINSKE

Professor Emeritus of Speech Pathology/Audiology. BA, Hamline University; MA, PhD, University of Minnesota.

CARL U. SCHULER

Associate Professor Emeritus of History. BS, MA, PhD, University of Wisconsin.

BEARNICE S. SKEEN

Professor Emeritus of Education. BS, MS, University of Oregon; EdD, Washington State University.

ARTHUR L. SOLOMON

Professor Emeritus of Speech and Broadcast. BA, Antioch College; MA, University of North Carolina; PhD, Stanford University.

RICHARD O. STARBIRD

Professor Emeritus of Education. BA, Heidelberg College; MA, Columbia University; EdD, Teachers College, Columbia University.

PAUL H. STONER

Associate Professor Emeritus of Music. BM, University of Kansas; MA, University of Iowa, DMA, University of Southern California.

ADA SWINEFORD

Professor Emeritus of Geology. SB, SM, University of Chicago; PhD, Pennsylvania State University.

ROBERT W. TESHARA

Associate Professor Emeritus of Geography/Regional Planning. BA, BA in Ed, Western Washington State College; PhD, University of Washington.

LESLIE J. THOMAS

Professor Emeritus of History. BA, St. Olaf College; MS, PhD, University of Wisconsin at Madison.

HUBERT N. THORESON

Associate Professor Emeritus of Management. BS, Valley City State College; MEd, EdD, University of North Dakota.

COLIN E. TWEDDELL

Professor Emeritus of Anthropology and Linguistics. BA, MA, PhD, University of Washington.

STEWART VAN WINGERDEN

Associate Professor Emeritus of Education. BA in Ed, Western Washington State College; MA, Colorado State College; EdD, Washington State University.

MANFRED C. VERNON

Professor Emeritus of Political Science. LLB, University of Cologne; JD, University of Berlin; PhD, Stanford University.

ADA L. WALTER

Assistant Professor Emeritus of Business Education and Economics. BS, Winthrop College; MBA, University of Denver.

MARY W. WATROUS

Professor Emeritus of Education. AB, University of Nebraska; MA, Gonzaga University; EdD, University of Washington.

EVELYN M. WELLMAN

Associate Professor Emeritus of Music. BA, MA, Western Washington State College.

JAMES W. WILKINS, JR.

Associate Professor Emeritus of Psychology. AB, MA, Kent State University; PhD, Michigan State University.

GEORGE E. WITTER

Associate Professor Emeritus of Computer Science. BA, MA, Miami University.

PAUL WOODRING

Distinguished Service Professor Emeritus of the University, Education/Psychology. BSEd, Bowling Green State University; MA, PhD, Ohio State University. Honorary degrees: LHD, Kalamazoo College; PhD, Coe College; LittD, Ripon College; LHD, Bowling Green State University; LLD, University of Portland.

JOHN J. WUEST

Professor Emeritus of Political Science. BS, MS, University of Southern California; PhD, University of California, Los Angeles.

FACULTY

Albers, James R. / Huxley
Alexander, Marian L. / Library
Alper, Donald / Political Science
Ames, Evelyn E. / Physical Education
Amiran, Edoh Y. / Mathematics
Amundsen, Darrel W. / Foreign Languages

Anderson, Kathryn L. / Fairhaven
Apel, Kenn / Speech Pathology & Audiology
Atkinson, Charles M. / Educational Curriculum & Instruction
Atneosen, Richard A. / Physics/Astronomy
Auer, David J. / Finance, Marketing and Decision Sciences

Babcock, Randall S. / Geology
Bailey, Marilyn / Journalism
Balas, Robert S. / Foreign Languages
Barrett, W. Louis / Physics & Astronomy
Barthold, Bonnie J. / English
Beck, Myrl E., Jr. / Geology
Beldin, Horace O. / Educational Curriculum & Instruction
Bellegarde, Françoise / Computer Science
Benson, Earl D. / Finance, Marketing and Decision Sciences
Berg, Richard H. / Arts & Sciences
Bettis, Joseph D. / Fairhaven
Billings, Thomas / Educational Administration & Foundations
Blackwell, Leslie / Educational Administration & Foundations
Bornzin, Gary / Fairhaven College
Boxberger, Daniel L. / Anthropology
Briggs, Roger D. / Music
Brilia, Lorraine / Physical Education
Brockhaus, Henrich / Foreign Languages
Brown, Edwin H. / Geology
Brown, Herbert A. / Biology
Brunton, Rosanne D. / English

University Personnel

- Bryant, William H. / Foreign Languages
Bryce, Wendy J. / Finance, Marketing & Decision Sciences
Buckley, Patrick H. / Geography
Bulcroft, Kris / Sociology
Burnett, Michael J. / Fairhaven
Busseil, Mark E. / Chemistry
- Cabezas, Mario A. / Foreign Languages
Call, Donald J. / Sociology
Campbell, Robert E. / Foreign Languages
Campbell, Sarah K. / Anthropology
Carmean, Stephen L. / Psychology
Carmody, Dianne C. / Sociology
Cary, Meredith B. / English
Castañeda, Omar S. / English
Catrell, Dennis E. / Theatre Arts
Chalice, Donald R. / Mathematics
Christelow, Stephanie E. / History
Christman, Robert A. / Geology
Clumpner, Roy A. / Physical Education
Cobb, Mary / English
Conton, Leslie / Fairhaven
Craswell, Keith / Mathematics
Crook, Joseph R. / Chemistry
Crow, Lowell T. / Psychology
Curgus, Branko / Mathematics
Cvetkovich, George T. / Psychology
- Dale, Carolyn / Journalism
Dallas, Lee A. / Educational Curriculum & Instruction
Davidson, Melvin G. / Physics & Astronomy
Day, Lynn / Educational Administration and Foundations
De Lorme, Roland L. / History
Dennett, Nolan A. / Theatre Arts
Dinnel, Dale L. / Psychology
Dittrich, William J. / Physics & Astronomy
Donker, Marjoria J. / English
Donovan, Todd A. / Political Science
Downing, Thomas E. / Philosophy
Duemmel, James E. / Mathematics
- Easterbrook, Don J. / Geology
Eaton, Marie D. / Fairhaven
Eblen, Anna / Communication
Eerkes, Gary L. / Computer Science
Elich, Peter J. / Psychology
Embrey, Robert D. / Technology
Emmerson, Richard K. / English
Engebretson, David C. / Geology
Eurich, Susan Amanda / History
Evans, Howard M. / Educational Curriculum & Instruction
- Fairbanks, Diana / Technology
Faulkner, Constance P. / Fairhaven
Feinberg, Richard / Physics & Astronomy
Fennimore, Flora / Educational Administration & Foundations;
Educational Curriculum & Instruction
Fewings, David R. / Finance, Marketing & Decision Sciences
Filliman, Michael Paul / Mathematics
Fisher, Michael H. / Liberal Studies
Fleetwood, A. Hugh / Philosophy
Foisy, Maurice H. / Political Science
Fonda, Richard W. / Biology
Ford, Paul / Educational Administration & Foundations
Fox, Sheila / Educational Curriculum & Instruction
Francis, Richard L. / English
Froderberg, Albert J. / Mathematics
Frome, Michael / Huxley
- Gallay, Alan / History
Garcia, Joseph E. / Management
Gayden, Ernst L. / Huxley
Gerhold, George A. / Chemistry
Germain, Roger / Theatre Arts
Gleson, Madge / Art
Glenn, Paul C. / Fairhaven
Grady, Thomas / Technology
Gray, Neil R. / Mathematics
Grote, Frederick W., Jr. / Psychology
Grove, Terrance J. / Music
Grover, Burton L. / Educational Administration & Foundations
Gutchow, Monica C. / Fine and Performing Arts
Gynan, Shaw N. / Foreign Languages
- Haag, Enid / Library
Hackler, Clyde M. / Technology
Hagen, Daniel A. / Economics
Hall, Pamela L. / Finance, Marketing and Decision Sciences
Hamblin, Vicki L. / Foreign Languages
Hammond, Joyce / Anthropology
Hansen, Julia / Economics
Hansen, Thor A. / Geology
Hanson, Lawrence / Art
Harder, K. Peter / Economics
Hardy, John T. / Huxley
Harris, F. David / Technology
Harris, Lyle E. / Journalism
Hartsfield, Nora A. / Mathematics
Haug, Peter / Management
Hayden, Davis C. / Psychology
Hayes, Susanna A. / Psychology
Hearne, James W. / Computer Science
Heid, William H. / Fairhaven
Helfgott, Leonard M. / History
Hendryson, Mary Ann / Economics
Henson, Steven / Economics
Hildebrand, Francis H. / Mathematics
Hill, Ford D. / Music
Hill, Ingrid / English
Hinchliff, Mark / Philosophy
Hiraoka, Jesse / Foreign Languages

Hitchman, James H. / History
Hogan, Eugene J. / Political Science
Hoover, Kenneth R. / Political Science
Horn, Thomas C. R. / History
Hovenier, Peter J. / Educational
Curriculum & Instruction
Howell, Kenneth W. / Educational
Curriculum & Instruction
Hung, Ken / Finance, Marketing and
Decision Sciences
Hutton, Marguerite R. / Accounting

Iglitzin, Karen / Music
Inniss, Kenneth B. / English
Inverarity, James / Sociology
Israels, Chuck / Music
Ives, Fred M. / Computer Science

Jack, Dana C. / Fairhaven
Jack, Rand F. / Fairhaven
Jackson, Harry D. / History
Janson, Carol / Art
Jensen, Robert A. / Art
Jewett, Robert I. / Mathematics
Johnson, Ellwood, G. / English
Johnson, James L. / Computer Science
Johnson, Jerry L. / Mathematics
Johnson, Vernon D. / Political Science
Johnston, Thomas A. / Art
Jongejan, Anthony / Educational
Administration & Foundations
Jusak, Debra S. / Computer Science

Kaplan, Edward H. / History
Kasprisin, Lorraine / Educational
Administration & Foundations
Keep, William C. / English
Keiper, Robert / Educational Curriculum
and Instruction
Keleman, Kenneth / Management
Keller, Robert H. / Fairhaven
Kelley, Patricia C. / Management
Kelsey, Harvey M. / Geology
Kikuchi, Louise S. / Foreign Languages
Kim, Robert H. / Educational
Administration & Foundations
Kimball, Linda A. / Anthropology
King, Donald M. / Chemistry
King, Rosalie Rosso / Home Economics
Kintz, B. L. / Psychology
Kitto, Kathleen L. / Technology
Klein, Marvin L. / Educational
Curriculum & Instruction
Kleinknecht, Ronald A. / Psychology
Knutzen, Kathleen / Physical Education
Kohn, Hubertus E. / Biology
Kraft, Gerald F. / Biology
Krieger, Milton H. / Liberal Studies
Kriz, George S. / Chemistry
Krogh, Suzanne L. / Educational
Curriculum and Instruction

Kupka-Schutt, Lou / Home Economics
Kutz, John / Technology

Lampman, Gary M. / Chemistry
Landis, Wayne G. / Huxley
Larner, Daniel M. / Fairhaven
Lawson, Robert / Educational
Administration & Foundations
Lee, Lawrence L. / English
Leverett, Victor H. / Theatre Arts
Levin, Richard G. / Mathematics
Lewis, Arleen C. / English
Lewis, L. Floyd / Finance, Marketing and
Decision Sciences
Lewis, Merrill E. / English
Lindquist, Norman F. / Mathematics
Lindsay, Richard H. / Physics &
Astronomy
Lippman, Louis G. / Psychology
Lippman, Marcia Z. / Psychology
Lobeck, Anne / English
Lockhart, Julie A. / Accounting
Long, Boyde / Physical Education
Lonner, Walter J. / Psychology
Lopresti, Robert / Library
Lortz, James E. / Theatre Arts
Loucky, James / Anthropology
Lundeen, Kathieen / English

McClendon, John C. / Fairhaven
McCormick, Patrick F. / Art
McInniss, Raymond / Library
McIntyre, Mary A. / Art
McKay, Floyd / Journalism
McLeod, Donald B. / Fairhaven
McRandle, Carol C. / Speech Pathology
& Audiology
Maguire, Christine C. / Huxley
Mahoney, Eldon R. / Sociology
Mancke, Elizabeth / History
Mariz, George E. / History
Marrs, Lawrence W. / Educational
Administration & Foundations;
Educational Curriculum & Instruction
Marsh, David F. / Art
Marsh, Peter / Music
Marshall, Robert C. / Anthropology
Mason, David T. / Fairhaven
Mason, John B. / English
Matthews, Geoffrey B. / Computer
Science
Matthews, Robin A. / Huxley
Mayer, J. Richard / Huxley
Meade, Robert D. / Psychology
Meier, Robert C. / Finance, Marketing
& Decision Sciences
Menninga, Larry D. / Computer Science
Merrifield, David E. / Economics
Mih, Winston / Technology
Miles, John C. / Huxley
Milicic, Vladimir / Foreign Languages
Miller, John A. / Chemistry

University Personnel

- Miller, Laurence P. / Psychology
Miller, Marybeth P. / Physical Education
Mills, Perry / Theatre Arts
Miner, Ralph E. / Political Science
Monahan, Robert L. / Geography
Montague, Phillip / Philosophy
Mookherjee, Debnath / Geography
Moore, James E. / Physical Education
Moore, John S. / Finance, Marketing and Decision Sciences
Morca, Teodora / Theatre Arts
Mork, Theodore A. / Educational Curriculum & Instruction
Morris, Jack / Music
Morton, Todd / Technology
Moskowitz, Steven M. / Technology
Muldrow, George M. / English
Muller-Parker, Gisele / Biology
Murphy, Dennis R. / Economics
- Nelson, David M. / Economics
Nelson, Karna L. / Educational Curriculum & Instruction
Nelson, Philip A. / Computer Science
Neuzil, Edward F. / Chemistry
Nickell, R. Hunter / Educational Administration & Foundations
Nickelson, Alden L. / Educational Curriculum & Instruction
- Olmstead, Marvin L. / Communication
Olney, Thomas J. / Finance, Marketing & Decision Sciences
O'Reilly, Maureen E. / Theatre Arts
Olsen, Fred A. / Technology
Osborne, Martin L. / Computer Science
Owens, Eugene / Management
- Packer, Donna / Library
Panek, David M. / Psychology
Parakh, Jai S. / Biology
Park, Douglas / English
Parris, Kristen D. / Political Science
Paskin, Steven / Accounting
Pavia, Donald L. / Chemistry
Payton, Rodney J. / Liberal Studies
Peele, Emily R. / Biology
Perez, Samuel A. / Educational Curriculum & Instruction
Petersen, Lois E. / Management
Pinney, Robert H. / Educational Curriculum & Instruction
Plumlee, E. Leroy / Management
Price, Kay / Educational Curriculum & Instruction
Prim, Merle M. / Psychology
Prody, Gerry A. / Chemistry
Pullan, C. Bruce / Music
Pullen, Jane Ann / Educational Administrations and Foundations
Purdy, John / English
Purtill, Richard L. / Philosophy
- Quigley, Robert J. / Physics/Astronomy
- Rangel-Guerrero, Daniel / Foreign Languages
Raudebaugh, Robert A. / Technology
Read, Thomas T. / Mathematics
Reay, John R. / Mathematics
Reed, Michael L. / Technology
Rees, Earl R. / Psychology
Rhoads, James B. / History
Rice, Karen B. / Library
Richardson, Cynthia / Library
Richardson, John G. / Sociology
Richardson, Larry S. / Communication
Riffey, Meribeth M. / Biology
Riggins, Ronald D. / Physical Education
Ritter, Harry R., Jr. / History
Ritter, Marian B. / Library
Robbins, Lynn A. / Huxley
Roberts, Frank / Educational Administration and Foundations
Roberts, Jane E. / Home Economics
Robinson, Walter L. / Foreign Languages
Ross, June R. P. / Biology
Ross, Steven C. / Finance Marketing and Decision Sciences
Rupaal, Ajit S. / Physics & Astronomy
Russo, Salvatore / Chemistry
Rutan, Gerard F. / Political Science
Rutschman, Carla J. / Music
Rutschman, Edward / Music
Rystrom, David S. / Finance, Marketing and Decision Sciences
- Safavi, Farrokh / Finance, Marketing and Decision Sciences
Sailors, William M. / Accounting
Salazar, Debra J. / Political Science
Savey, Ronald N. / Accounting
Scandrett, Robert L. / Music
Schermer, Elizabeth R. / Geology
Schlotterback, Thomas / Art
Schneider, David E. / Biology
Schwartz, Maurice L. / Geology; Educational Curriculum & Instruction
Schwartz, Sy / Educational Administration & Foundations; Educational Curriculum & Instruction
Schwarz, Henry G. / History/East Asian Studies
Scott, James W. / Geography
Seal, Michael R. / Technology
Seilo, Michael T. / Speech Pathology & Audiology
Senge, Steven V. / Accounting
Senger, Clyde M. / Biology
Shafer, Ronald W. / Psychology
Shaw, Albert C. / Music
Shen, Yun-Qiu/Mathematics
Simpson, Carl H. / Sociology
Singleton, William R. / Accounting
Skinner, Knute / English

Sleeman, Allan G. / Economics
Slentz, Kristine L. / Educational
Curriculum & Instruction
Slesnick, Irwin L. / Biology
Smeins, Linda E. / Art
Smith, Alden C. / Communication
Smith, William E. / English
Spanel, Leslie E. / Physics & Astronomy
Spich, Robert S. / Finance, Marketing and
Decision Sciences
Sprague, Donald L. / Physics &
Astronomy
Springer, Mark C. / Management
Steffens, Pete S. / Journalism
Stephan, G. Edward / Sociology
Stephens, Kathleen J. / Library
Stevenson, Joan C. / Anthropology
Stewart, James E. / Physics & Astronomy
Stoever, William K. B. / Liberal Studies
Stoops, Robert F., Jr. / Liberal Studies
Storch, Thomas A. / Huxley
Suzcek, Christopher A. / Geology
Sue, David / Psychology
Summers, William C. / Huxley
Sylvester, Charles D. / Physical Education
Symes, Dal S. / Library
Symes, Ken M. / English

Taibot, James L. / Geology
Taylor, Christopher J. / Psychology
Taylor, Lee H. / Theatre Arts
Taylor, Ronald J. / Biology
Taylor, Sandra J. / Psychology
Templeton, David E. / Art
Terey-Smith, Mary / Music
Terich, Thomas A. / Geography
Thompson, Richard W. / Psychology
Thorndike, Robert M. / Psychology
Tomlonovic, Kathleen / Foreign
Languages
Tonjes, Marian J. / Educational
Curriculum & Instruction
Towner, John C. / Educational
Curriculum & Instruction
Trent, Carol / Biology
Trimble, Joseph E. / Psychology/
Educational Administration &
Foundations
Truschel, Louis W. / History
Tyler, Vernon O., Jr. / Psychology

Underwood, John H. / Foreign Languages
Ural, Saim / Computer Science
Urso, Robert A. / Art
Utendale, John F. / Educational
Administration & Foundations

Vajda, Edward J. / Foreign Languages
Van Den Bosch, Peter N. / Computer
Science

Vander Velde, Philip B. / Educational
Administration & Foundations
Vander Yacht, Douglas R. / Theatre Arts
Vassdal-Ellis, Elsi M. / Technology
Vawter, Richard D. / Physics/Astronomy
Veit, J. Joseph / Physics/Astronomy
Vernacchia, Ralph A. / Physical Education
Verosky, John M. / Mathematics
Vike, Gene E. / Art
Vogel, Richard F. / Technology

Wallace, David / Music
Wallace, William L. / Liberal Studies
Wang, Jianglong / Communication
Ward, Thomas E. / Theatre Arts
Warner, Daniel M. / Accounting &
Management
Waterman, C. Fred / Library
Webb, Loren L. / Speech Pathology
& Audiology
Webber, Herbert H. / Huxley
Weiner, Ruth F. / Huxley
Weir, Sara J. / Political Science
Weiss, Rudolf / Foreign Languages
Werstler, David / Technology
Weyh, John A. / Chemistry
Weymark, Diana N. / Economics
Whisenhunt, Donald W. / History
Whitmer, John C. / Chemistry
Nicholas, Mark L. / Chemistry
Williams, Don C. / Biology
Williams, Terrell G. / Finance, Marketing
and Decision Sciences
Wilson, H. William / Chemistry
Wodzicki, Antoni / Geology
Wolf, John W. / Mathematics
Wonder, Bruce D. / Management
Wright, Evelyn C. / English

Ypma, Tjalling J. / Mathematics
Yu, Ming-Ho / Huxley
Yunghans, Charles E. / Technology
Yusa, Michiko / East Asian Studies

Zeine, Lina / Speech Pathology
& Audiology
Ziegler, David W. / Political Science
Zoro, Eugene S. / Music
Zurfluh, Linda / Educational
Administration and Foundations

LIBRARIES

DIANE C. PARKER (1984) Director of
Libraries. BA, University of California,
Berkeley; MLS, University of
Washington.

University Personnel

Librarians

- MARIAN L. ALEXANDER (1970) Associate Professor and Head Technical Services Librarian. AB, Occidental College; MLS, University of California, Los Angeles.
- ENID HAAG (1975) Professor and Education Librarian. BS, University of Nebraska; MA/Ed, MS/Librarianship, University of Denver.
- ROBERT LOPRESTI (1987) Assistant Professor and Government Documents Librarian. BA, Juniata College; MLS, Rutgers, The State University.
- RAYMOND G. McINNIS (1965) Professor and Social Sciences Librarian. BA, University of British Columbia; MLS, University of Washington.
- DONNA E. PACKER (1982) Associate Professor and Head of Collection Services. BA, BLS, University of British Columbia; MBA, Western Washington University.
- KAREN B. RICE (1989) Assistant Professor and Head of Catalog Department. BS, University of Wisconsin; MSLS, University of North Carolina at Chapel Hill.
- MARIAN A. RITTER (1969) Associate Professor and Music Librarian. BME, MLS, University of Portland.
- PETER A. SMITH (1990) Assistant Professor and Online Services Coordinator. BA, MA, MLS, Wayne State University.
- KATHLEEN J. STEPHENS (1972) Associate Professor and Science/Technology Librarian. BA, Western Washington State College; MLS, University of Washington.
- DAL S. SYMES (1987) Associate Professor and Humanities Librarian. BS, MA, Utah State University; MA, University of Denver; PhD, University of New Mexico.

C. FRED WATERMAN (1967) Assistant Professor, Head of Reference Services and Business/Economics Librarian. BS, M.I.S., University of Pittsburgh.

DISTINGUISHED SERVICE PROFESSOR OF WESTERN WASHINGTON UNIVERSITY

PAUL J. OLSCAMP
Distinguished Service Professor of Western Washington University. BA, MA, University of Western Ontario; PhD, University of Rochester.

DEGREES AND CERTIFICATES

Degrees granted from August, 1989, to June, 1990, inclusive:

Master of Education	149
Master of Arts	70
Master of Science	33
Master of Music	9
Master of Business Administration	21
Bachelor of Arts in Education	213
Bachelor of Arts	1,378
Bachelor of Science	315
Bachelor of Fine Arts	3
Bachelor of Music	11
Total	2,202

Recommended for certification to the State Superintendent for Public Instruction — August 1989, to June, 1990, inclusive:

Initial Teacher Certificate	285
Continuing Teacher Certificate	89

Appendices

Appendix A AFFIRMATIVE ACTION/ EQUAL OPPORTUNITY GUIDELINES

Equal Opportunity

It is the policy of the Board of Trustees of Western Washington University to provide equal employment opportunity for all employees and qualified applicants for employment, and equal access to programs and services for all students and members of the community regardless of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status. The Board of Trustees pledges that every effort will be made to provide the resources necessary for implementation of this policy.

It is the responsibility of each and every member of the University community to ensure that this policy becomes a functional part of the daily activities of Western Washington University.

The University will continue to cooperate with agencies of the federal and state governments in fulfilling its obligations under the laws of the United States and the State of Washington.

Affirmative Action

The objectives of the Western Washington University Affirmative Action Program are to eliminate discrimination and, in conformance with state and federal law, to develop a work force and student body which reflect an equitable distribution of minority group members, women, veterans and handicapped individuals at all levels of employment and throughout all departments of the University.

Applications for employment and student admission will be solicited from groups protected under federal regulations, and where such persons are under-represented in the work force and/or the student body.

It is the responsibility of each employment official to adhere to affirmative action procedures and to take positive steps to fulfill the affirmative action goals of the University.

Personnel Policies

The University recruits on the basis of qualifications without regard to race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status, except where such is a bona fide occupational qualification.

Recruitment for graduate assistants and student employees shall be publicized so all eligible interested individuals have an opportunity to apply.

Program and Activity Policies

No qualified person shall, on the basis of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status, be excluded from participation in, be denied the benefits of or be subject to discrimination in any program or activity provided by the University, including the Associated Students. In addition, the University will not utilize off-campus facilities nor participate in activities or services which are operated in a discriminatory manner.

Counseling and guidance in making educational and career choices will be free of stereotyping. It is the policy of the University to encourage the elimination of stereotyping and bias in testing and other curricular material.

With limited exceptions, which shall be reviewed by the director of the Center for Equal Opportunity, all classes, courses of study and other educational programs and activities offered by the University will be open to all persons.

The University will modify its academic requirements and procedures for evaluating student academic achievement as necessary to ensure that such requirements or evaluation methods do not discriminate or have the effect of discriminating on the basis of handicap against a qualified applicant or student. All University programs are accessible to mobility impaired students. The University assists in providing auxiliary aids for students with impaired sensory, manual, or speaking skills. It is the responsibility of the student needing these modifications or aids to request them. Informal requests for modifications or aids should be made with the Disabled Student Services Office. If further assistance is needed in obtaining these modifications or aids, the Center for Equal Opportunity should be contacted.

A person who believes s/he has been discriminated against by the University because of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status is urged to utilize the internal grievance procedure provided by the University through the Center for Equal Opportunity as soon as possible after the alleged act of discrimination giving rise to the grievance. (See Appendix H.)

The Center for Equal Opportunity is located in Old Main 375, phone (206) 676-3306. The director is responsible for 504, Title IX, Title VII and all other affirmative action/equal opportunity laws.

Appendix B WWU POLICY ON SEXUAL HARASSMENT OF STUDENTS

It is the policy of Western Washington University to provide an environment in which students can work and study free from sexual harassment or sexual intimidation and exploitation. All students, staff and faculty should be aware that the University is concerned and prepared to take action to prevent and to eliminate such behavior and that the individuals who engage in such behavior will be subject to sanctions, including dismissal.

Sexual harassment occurs in a context of unequal power and is a form of sexual discrimination, and, as such, is a violation of Title VII of the 1964 Civil Rights Act and Title IX of the 1972 Education Amendments.

Sexual harassment of a student will be judged to occur at Western Washington University when an individual in an institutional position of power or authority over a student uses such power either implicitly or explicitly to promise, grant or withhold grades, evaluations or other academic or supervisory rewards in order to coerce that student into a sexual relationship; or to subject the student to unwanted sexual attention or to verbal or physical conduct of a sexual nature, when such conduct creates an intimidating, hostile or offensive educational or work environment.

Students who believe they may be experiencing sexual harassment may be uncertain that specific actions constitute sexual harassment, so University policy allows for two procedural stages. The first stage provides students with advice and counsel and is strictly confidential (Procedures, steps 1-4). The second stage involves a formal investigation, which proceeds only if the student is willing to allow the signed complaint to be given to the accused (Procedures, steps 5-9). The University will protect students from retaliation.

The procedures for dealing with sexual harassment are as follows:

1. Students may bring questions about procedure or seek informal advice relating to sexual harassment to the Office of Student Affairs. If an individual desires to discuss personal thoughts and feelings, wishes to consider ways to deal individually with the incident(s), or explore procedural options, the Office of Student Affairs offers counseling and appropriate referral.

2. Specific complaints of sexual harassment should be made to the Assistant to the Vice President/Dean of Student Affairs or designee. In some cases, the Assistant to the Vice President/Dean of Student Affairs may discuss concerns with the person complained against without formal charges being filed.

3. If a student requests a formal investigation of the incident(s), a written complaint signed by the student identifying the accused individual(s) and the unwanted behavior should be submitted to the Affirmative Action Officer. The Affirmative Action Officer will determine if the complaint falls under the provisions of the Sexual Harassment Policy and if the facts presented in the case warrant investigation.

4. If the Affirmative Action Officer determines that the alleged facts presented in the complaint do not warrant investigation, the student will be so informed in writing within five class days. The student may provide additional evidence within ten class days. If the complaint is concluded at that stage, no copy of the complaint is retained.

5. If the Affirmative Action Officer determines that the facts presented in the complaint warrant investigation, the Affirmative Action Officer will, with the student's consent, forward a copy of the signed complaint to the appropriate Vice President within 15 class days of the filing of the complaint. If the student declines, the investigation will not proceed and no copy of the complaint will be retained. If the student consents, the Vice President will forward a copy of the complaint to the accused and will investigate the complaint to determine whether reasonable grounds exist to conclude that sexual harassment has taken place. The investigation shall be concluded within 15 class days.

The University will protect students from retaliation and will provide for third-party evaluation of course performance when appropriate.

6. If the Vice President determines there is not reasonable cause to believe that sexual harassment did occur, the student and the accused shall be so informed within five class days of the end of the investigation. No further action shall be taken on the complaint, and no record of the complaint shall appear in the accused individual's file unless the accused requests it. However, the student may appeal the decision within five class days and the matter would then proceed as provided in Section 8.

7. If the Vice President determines there is reasonable cause to believe that sexual harassment has occurred, the Vice President shall so inform the person against whom the complaint was made in writing within five class days. The communication will specify any recommended action and will inform the accused of his or her right to appeal (Section 8). If the accused does not request a hearing, a written statement shall become part of his or her file and the recommended action will be implemented.

8. The decision of the Vice President may be appealed within five class days to the Student Academic Grievance Board. (The Student Academic Grievance Board is described in Appendix F, Section B of the *General Catalog*. For the purpose of sexual harassment cases, there shall be in addition to the established pool

of Board members, six classified staff appointed by the Staff Employees Council and six administrators appointed by the Administrators Association. In cases which involve administrators or classified staff, the three members from the appropriate pool will be used in lieu of the faculty members on the Board.)

9. If, after completion of the appeal process, action recommended by the Vice President is dismissal, then appropriate dismissal-for-cause proceedings in the *Faculty Handbook*, *Administrators Handbook*, *Higher Education Personnel Board Rules* or *Student Employment Regulations* will be initiated.

Appendix C STUDENT RIGHTS AND RESPONSIBILITIES CODE

WAC 516-22-005 Preamble. Western Washington University students enjoy the basic rights of all members of society. At the same time students have an obligation to fulfill the responsibilities incumbent upon all citizens, as well as the responsibilities of their particular roles within the academic community. The student is expected to respect University rules and federal, state and local laws. Those who are charged with a violation are assured of a fair judicial process and when found in violation assured of appropriate discipline. This chapter advises students of their rights and responsibilities while enrolled at Western Washington University.

WAC 516-22-010 Disruptive Behavior. The educational mission of Western Washington University requires the freedom to teach, conduct research and administer the University. A student shall be subject to disciplinary action if he/she engages in any behavior which interferes with the rights of others or which materially or substantially obstructs or disrupts teaching, research or administrative functions.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-015 Repeated Incidents of Academic Dishonesty. Maintaining academic honesty is the joint responsibility of students and the faculty. Two or more incidents of academic dishonesty reported to the Office of the Provost (ref. "Academic Dishonesty Policy") shall make the student subject to disciplinary action.

Sanctions for repeated incidents of academic dishonesty are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-020 Forgery, Alteration or Destruction of Documents. Maintaining accurate and credible records and documents is necessary for the University to fulfill its educational mission and to assure the welfare of its students. Any student who alters, forges or

destroys any official University document or record shall be subject to disciplinary action.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-025 Fraudulent Admissions Credentials. The integrity of Western Washington University's admissions process requires receipt of full, honest documents as requested by the Admissions Office. Submission of fraudulent admissions or residency credentials shall subject a student to disciplinary action at any time such act is discovered.

A student violating this section may not be granted transfer credits earned at a former institution if at the time of application to Western Washington University he/she did not provide official transcripts of all work at such institutions. Additional sanctions available through the University judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-030 Interference with Freedom of Expression. The rights of freedom of speech, petition and assembly are fundamental to the democratic process. The United States Constitution guarantees these freedoms to all members of the Western Washington University community.

The University recognizes its obligation to protect students' freedom of expression while at the same time minimizing the impact of visual pollution and physical damage to University property. The University shall provide sufficient bulletin boards and shall permit other methods for disseminating information such as leaflets, handbills, posters and banners according to guidelines available through the Viking Union administrative office. All printed material may be subject to removal if the content is defamatory.

Any person may speak on the Western Washington University campus when invited to do so by a member of the University community. Use of University building spaces is subject to space and scheduling policies and procedures. The appearance of an invited speaker does not constitute an endorsement of the speaker's views by the University's faculty, administration, students or Board of Trustees. Public address or audio amplification equipment normally may be used only in the Viking Union Plaza and athletic fields subject to space and scheduling policies and procedures. Use of such equipment in other areas of the campus must be authorized by the Vice President for Student Affairs or the Vice President's designee. The essence of the right to speak is the freedom of the speaker to make his/her statement. Both the speaker and the audience are entitled to proceed without being subjected to physical interference or violence.

Students deliberately engaging in acts of violence, threats of violence or in other conduct which interferes with the rights of others or which materially or substantially disrupts the

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exchange of ideas on campus are subject to disciplinary action or prosecution under law. Sanctions available through the University judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-035 Alcohol/Drug Policy Violations. Substance abuse by members of the University community impacts the quality of the educational experience of all students. Two or more violations of alcohol/drug policies or a single substantive violation including, but not limited to, the sale of illegal substances or violence to others while under the influence of alcohol/drugs shall make the student subject to disciplinary action.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-040 Harassment of Peers. A quality educational experience can only occur in an environment free of harassment and exploitation. A student shall be subject to disciplinary action if he/she engages in harassing behaviors including any act that creates an intimidating or hostile environment for another member of the University community including, but not limited to, those of a physically threatening, religious, sexual or racial nature.

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-100 Judicial Structure. The Vice President for Student Affairs is responsible for administration of this Code. The Vice President shall assure that the University Judicial Board appointment process is initiated annually and shall assure that allegations of Code violations and appeals are properly referred.

A Conduct Officer, who shall have authority to adjudicate and administer sanctions for violations of this Code, shall be appointed from the Student Affairs division by the Vice President for Student Affairs.

A six-member University Judicial Board shall be appointed prior to Fall Quarter: two faculty (appointed by the Vice President for Academic Affairs), three students (appointed by the Associated Students Board) and one member of the Student Affairs staff (appointed by the Vice President for Student Affairs). An alternate for each position shall be appointed at the same time by the same authority. All appointments shall be for one academic year. The Judicial Board shall have authority to adjudicate and administer sanctions for violations of this Code.

Should the need arise during Summer Session, an ad hoc Judicial Board shall be appointed subject to the same make-up and procedures as the academic year Judicial Board.

WAC 516-22-120 Initiation of Informal Proceedings. Any student, faculty or staff member of the University alleging a violation of

this Code shall deliver to the Office of the Vice President for Student Affairs a written statement of the charges against the student. The Vice President shall ask the Conduct Officer to investigate the probity of the charge.

If in the Conduct Officer's judgment there is sufficient basis to consider the charge, the Conduct Officer shall meet with the student and those bringing the charges and shall weigh appropriate evidence. Within ten (10) business days, the Conduct Officer shall notify the student in writing of his/her decision, including the sanction if a violation is judged to have occurred. Written notification shall include a statement of the student's right to appeal to the University Judicial Board.

WAC 516-22-124 Appeal to the Judicial Board.

An accused student may appeal an adverse decision of the Conduct Officer to the University Judicial Board. The appeal must be made in writing to the Vice President for Student Affairs within ten (10) business days of receiving the Conduct Officer's written decision. An extension of an additional ten (10) business days will automatically be granted upon the student's request. The appeal letter must state the basis for the appeal. The Vice President shall notify the Judicial Board Chairman of the appeal. No sanction may be invoked while an appeal is pending, except as provided in "Interim Suspension Permitted," WAC 516-22-150.

WAC 516-22-130 Appeal Hearing Procedures.

The Judicial Board Chairman shall establish a hearing date and shall request the student making the appeal to appear.

(1) Notification of the hearing shall include:

- (a) Time, date and location of hearing.
- (b) Provision of the "Student Rights and Responsibilities Code" which the student is alleged to have violated.
- (c) Nature and date of the alleged violation.
- (d) Copy of the Code and name(s) of University source(s) whose procedural advice can be sought.
- (e) Statement of the student's right to be accompanied by a non-lawyer advocate of his/her choice, to call witnesses and to speak on his/her own behalf.
- (f) Statement of the student's right to review written evidence prior to the hearing.

(2) Hearings shall be conducted in a manner which is informal and at the same time assures fundamental fairness of procedure. Hearings shall be open to the public unless the accused student requests a closed hearing.

(a) No student who is charged with an offense shall be asked to give information or to answer questions concerning an alleged violation of this Code unless the student has received notification of a hearing in accordance with the notification provision above.

- (b) The student may bring witnesses, speak in his/her own behalf and may be represented by a non-lawyer advocate of his/her own choice.
 - (c) An accused student has the right to know who has alleged the violation of this Code, to review the written evidence, and to ask questions directly of the person(s) making the allegation and those who present testimony.
 - (d) The Judicial Board Chairman and the accused student may call any person to speak concerning the alleged violation. The Board Chairman may limit or exclude evidence which is irrelevant, immaterial or repetitious.
 - (e) Five members shall constitute a quorum of the Judicial Board. Actions by the Board require support by a majority of those members present at the time of the hearing and during presentation of the testimony. A Board member may be excused from listening to part of the testimony with the Board's approval if the testimony is preserved by tape recording and the absence is due to extenuating circumstances. Any member of the Board who considers himself/herself unable to render an impartial decision in a particular case shall excuse himself/herself from the Board's deliberations in advance and may be replaced by an alternate.
- (3) The Judicial Board Chairman shall notify the accused student in writing of the disposition of the case and of his/her right to appeal.

WAC 516-22-134 Disruption of the Judicial Process. Student rights and responsibilities contained within this Code are assured through the orderly functioning of the judicial process. The failure of a student formally charged with a violation of this Code to appear before the Conduct Officer after receiving notice of a hearing shall make the student subject to disciplinary action. A student formally charged with a violation of this Code may not excuse himself/herself from judicial proceedings by withdrawing from the University and shall be prohibited from enrolling for subsequent quarters until such time as he/she does appear for a hearing.

WAC 516-22-138 Certain Sanctions Defined. Among those sanctions which the Conduct Officer or Judicial Board may invoke are:

- (1) *Disciplinary Probation* — An official warning which is maintained in the student's conduct file for seven years. Should the student be found in violation of the Code again, the Disciplinary Probation status may result in a more serious sanction for the second violation.
- (2) *Disciplinary Suspension* — Termination of a student's enrollment for a period of time or until certain specified conditions have been met.
- (3) *Disciplinary Expulsion* — Permanent termination of a student's enrollment with no option for later re-enrollment.

Conditions congruent with the nature of the charge can be added to these sanctions, included but not limited to: restitution for damages, attendance at educational programs, University community service, restriction of access to designated areas of campus. Failure to comply with sanctioned conditions can result in further action under the provisions of the Code.

WAC 516-22-142 Record of Proceedings. Records prepared by the Conduct Officer or Judicial Board shall be maintained in a conduct file in the Office of the Vice President for Student Affairs for six (6) years. All records shall be destroyed at the end of the period, which commences upon adjournment of the Conduct Hearing. If an accused student has been found not in violation of this Code, no record of either the charges or the proceedings will be entered into the conduct file.

The University shall not make the records of judicial proceedings or sanctions available to any member of the public except upon written consent of the student involved. Certain exceptions are authorized under the "Student Records Policy," WAC 516-26.

WAC 516-22-146 Right to Formal Hearing. Included with the notification of the Judicial Board's decision shall be a statement that the student has a right to a formal hearing pursuant to RCW 28B.19.110 and WAC 516-08.

WAC 516-22-150 Interim Suspension Permitted. In order to prevent danger to individuals, substantial destruction of property or significant disruption of teaching, research or administrative functions, the Vice President for Student Affairs or his/her designee may temporarily suspend a student for stated cause subject to such limitation as the Vice President shall deem appropriate.

In all cases, the student is entitled to a hearing before the appropriate Conduct Officer or Board as soon as such hearing can be held, but not to exceed five (5) school days after the beginning date of interim suspension unless the student should request an extension. During the interim suspension period, the student shall be allowed on University property only to the extent deemed permissible by the Vice President for Student Affairs.

Appendix D ACADEMIC DISHONESTY POLICY AND PROCEDURE

1. Policy

Western Washington University students have an obligation to fulfill the responsibilities of their particular roles as members of an academic community. Honesty is essential to learning. Without it, fair evaluation for all is impossible. Academic integrity is demanded, and academic dishonesty at Western Washington University is a serious infraction dealt with severely. Students shall not claim as their own the achievements,

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work or thoughts of others, nor shall they be a party to such claims.

It is the responsibility of the faculty to prevent and to detect acts of academic dishonesty. It shall be the instructor's responsibility to confront a student and to take appropriate action if academic dishonesty, in the instructor's judgment, has occurred.

2. Academic Dishonesty

Academic dishonesty includes the following acts:

- (a) Giving unauthorized information to another student or receiving unauthorized information from another student during any type of examination or test.
- (b) Obtaining or providing without authorization questions or answers relating to any examination or test prior to the time of the examination or test.
- (c) Using unauthorized sources for answers during any examination or test.
- (d) Asking or arranging for another person to take any examination or test in one's place.
- (e) Plagiarizing, which is presenting as one's own in whole or in part the ideas, language, creations, conclusions, or scientific data of another without explicit acknowledgment. Examples include, but are not limited to:
 - (1) Submitting a paper purchased from a term-paper service.
 - (2) Substituting synonyms for words in another's writing and claiming the writing to be one's own.
 - (3) Claiming credit for someone else's artistic work, such as a musical composition or arrangement.
 - (4) Using someone else's lab report as a source of data or results.
 - (5) Collaborating with others in a required assignment without the approval of the instructor.

3. Procedures

- (a) An instructor suspecting an act of academic dishonesty shall discuss the matter thoroughly with the student involved. Arrangements for this discussion shall be made by the instructor within ten (10) class days after discovering the alleged violation. In the event the student is absent from campus, the instructor shall attempt to contact the student in writing at the most recent permanent address available in the Office of the Registrar. If the incident occurs at the end of a quarter, the instructor within ten (10) class days of the beginning of the following quarter or within a reasonable time thereafter shall arrange to discuss the matter with the student.

Should the instructor be unable to contact the student to discuss the incident in question before final grades are due, the instructor shall submit a grade of X with a

note to the registrar. The registrar shall in turn inform the student of his/her responsibility to contact the instructor and refer the student to the section of the *General Catalog* addressing "Student Rights and Responsibilities." Should the student not respond to the faculty member or respective department chairperson by the 10th day of the next academic quarter, not including summer, the grade will be changed to an F.

Following this discussion, the instructor shall determine whether or not an act of academic dishonesty has occurred. If in the instructor's judgment there has been a violation, the instructor shall assign a grade of F for the work involved or for the course and notify the Vice President for Academic Affairs and the Registrar. A record of the violation is maintained in the Office of the Vice President for Academic Affairs. Repeated acts of academic dishonesty shall make a student subject to disciplinary action—including possible dismissal—through the "Student Rights and Responsibilities Code," available from the Office of Student Affairs.

No student shall be allowed to withdraw from a course or from the University to avoid receiving a failing grade based upon academic dishonesty.

- (b) Appeal: A student who receives an F grade for academic dishonesty and who feels wrongly accused by an instructor may appeal to the dean of the school or college involved. The appeal must be lodged within ten (10) class days of receiving notice of the instructor's decision and if not, any right of appeal is deemed waived. The dean shall make a decision based on the merits of the case. The reasons for the decision shall be in writing and shall be given to both the student and the instructor within ten (10) class days of receiving the appeal.

Either side may appeal a decision of the dean to the Student Academic Grievance Board and from the Board to the Academic Vice President, whose decision is final. Procedures followed shall be those provided in the "Student Academic Grievance Policy and Procedures" (Section B, Appeal to the Board), which is printed in Appendix F of the University's *General Catalog*.

Appendix E STUDENT RECORDS POLICY

WAC 516-26-010 Purpose.

The purpose of this chapter is to implement 20 USC Sec. 1232q, the Family Educational Rights and Privacy Act of 1974, by establishing rules and procedures to ensure that information contained in student records is accurate and is handled in a responsible manner by the university and its employees.

WAC 516-26-020 Definitions.

For purpose of this chapter the following terms shall have the indicated meanings:

- (1) "Student" shall mean any person who is or has been officially registered and attending Western Washington University and with respect to whom the University maintains education records or personally identifiable information.
- (2) (a) "Education records" shall refer to those records, files, documents and other materials maintained by Western Washington University or by a person acting for Western Washington University which contain information directly related to a student.
 - (b) The term "education records" does not include the following:
 - (i) Records of instructional, supervisory or administrative personnel and educational personnel ancillary thereto which are in the sole possession of the maker thereof and which are not accessible or revealed to any other person except the substitute;
 - (ii) If the personnel of the University's Department of Safety and Security do not have access to education records under WAC 516-26-080, the records and documents of the department which are kept apart from records distributed in WAC 516-26-020(2)(a) are maintained solely for law enforcement purposes and are not made available to persons other than law enforcement officials of the same jurisdiction;
 - (iii) Records made and maintained by the University in the normal course of business which relate exclusively to a person's capacity as an employee and are not available for any other purpose except that records relating to an individual in attendance at the University who is employed as a result of his or her status as a student are education records and not excepted; or
 - (iv) Records concerning a student which are created or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained or used only in connection with the provision of treatment to the student and are not available to anyone other than persons providing such treatment, except that such records may be personally reviewed by a physician or other appropriate professional of the student's choice.
- (3) "Personally identifiable information" shall refer to data or information which includes either (a) the name of the student, the student's parent or other family member, (b) the address of the student, (c) the address of the student's family, (d) a personal identifier, such as the student's social security number or student number, (e) a list of personal characteristics which would make it possible to identify the student with reasonable certainty, or (f) other

information which would make it possible to identify the student with reasonable certainty.

- (4) "Vice President for Student Affairs" shall refer to the Vice President for Student Affairs or his/her designee.

WAC 516-26-030 Access to Records.

- (1) Except as provided in WAC 516-26-035, each student at Western Washington University shall have access to his or her education records. The right of access shall include the right to inspect, review and obtain copies of education records.
- (2) The Vice President for Student Affairs shall prepare a list of the types of student education records which are maintained by Western Washington University.
- (3) A student wishing access to his or her education records shall submit a written request for access to the Vice President for Student Affairs. A request for access shall be acted upon by the Vice President for Student Affairs within a reasonable period of time, not to exceed 20 days.
- (4) The Vice President for Student Affairs shall provide students of the University with an opportunity for reasonable access to education records, provided that the Vice President for Student Affairs shall be responsible for taking appropriate measures to safeguard and ensure the security and privacy of the institution's records while being inspected by students.
- (5) The Vice President for Student Affairs will inform in writing a student who has requested access to his or her education records of the nature of any records which are being withheld from the student on the basis of the exceptions set forth in WAC 516-26-035. A student may challenge a decision by the Vice President for Student Affairs to withhold certain of the student's records by filing an appeal with the Student Rights and Responsibilities Committee.
- (6) This section shall not prohibit the University Registrar from providing a student with a copy of the student's academic transcript without prior clearance from the Vice President for Student Affairs.

WAC 516-26-035 Access to Records — Limitations On Access.

- (1) Western Washington University shall not make available to a student the following types of materials:
 - (a) The financial records of the student's parents or any information contained therein.
 - (b) Letters or statements of recommendation, evaluation or comment which were provided to the University in confidence, either expressed or implied, prior to January 1, 1975, provided that such letters or statements not be used for purposes other than those for which they were originally intended.
 - (c) If a student has signed a waiver of the

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student's right of access in accordance with subsection (2) of this section, confidential records relating to the following:

- (i) Admission to any educational agency or institution;
- (ii) An application for employment; or
- (iii) The receipt of an honor or honorary recognition.

(2) A student, or a person applying for admission to the University, may waive his or her right of access to the type of confidential records referred to in subsection (1)(c) of this section, provided that such a waiver shall apply only if the student is, upon request, notified of the names of all persons making confidential recommendations, and such recommendations are used solely for the specific purpose for which the waiver has been granted. Such a waiver may not be required as a condition for admission to, receipt of financial aid from, or receipt of other services or benefits from the University.

(3) If any material or document in the education record of a student includes information concerning more than one student, the student shall only have the right either to inspect and review that portion of the material or document which relates to the student or to be informed of the specific information contained in that portion of the material or document.

WAC 516-26-040 Right to Copy Records.

(1) The Vice President for Student Affairs shall, at the request of a student, provide the student with copies of the student's education records. The fees for providing such copies shall not exceed the actual cost to the University of providing the copies.

(2) Official copies of transcripts from other educational institutions, such as high school or other college transcripts, will not be provided to students by the University.

WAC 516-26-050 Challenges to Content of Records — to Release of Records — or to Denial of Access to Records.

(1) Any student who believes that inaccurate, misleading or otherwise inappropriate data is contained within his or her education records shall be permitted to have included within the record a written explanation by the student concerning the content of the records.

(2) A student shall have the right, in accordance with the procedures set forth in WAC 516-26-055 and 516-26-060, to:

- (a) Challenge the content of education records in order to ensure that the records are not inaccurate, misleading or otherwise in violation of the privacy or other rights of the student;
- (b) Have the opportunity to correct or delete inaccurate, misleading or otherwise inappropriate data contained within education records;
- (c) Challenge the release of education records to specific persons as contrary to the

provisions of this chapter; and

(d) Challenge a decision of the University to deny the student access to particular types of records.

(3) A student shall not be permitted under this chapter to challenge the validity of grades given in academic courses, except on the grounds that, as a result of clerical error, the student's records fail to accurately reflect the grades actually assigned by an instructor.

WAC 516-26-060 Challenges — Hearing Before Student Rights and Responsibilities Committee.

(1) If informal proceedings fail to resolve the complaint of a student, the student may file with the Vice President for Student Affairs a written request for a hearing before the Student Rights and Responsibilities Committee of the University.

(2) Within a reasonable time after submission of a request for hearing, the Student Rights and Responsibilities Committee shall conduct a hearing concerning the student's request for corrective action.

(a) The student and the University shall be given a full opportunity to present relevant evidence at the hearing before the Student Rights and Responsibilities Committee.

(3) If a student demonstrates that the student's education records are inaccurate, misleading or otherwise in violation of the privacy or other rights of the student, the Student Rights and Responsibilities Committee shall have authority to order the correction or deletion of inaccurate, misleading or otherwise inappropriate data contained in the records.

(4) If a student demonstrates that the release of the student's education records would be improper under this chapter, the Student Rights and Responsibilities Committee shall have authority to order that the records not be released.

(5) If a student demonstrates that the student is entitled to access to particular documents under this chapter, the Student Rights and Responsibilities Committee shall have authority to order that the student be permitted access to the records.

(6) The decision of the Student Rights and Responsibilities Committee shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.

WAC 516-26-070 Release of Personally Identifiable Information or Education Records.

Except as provided in WAC 516-26-080, 516-26-085 or 516-26-090, the University shall not permit access to or the release of a student's education records or personally identifiable information contained therein to any person without the written consent of the student.

WAC 516-26-080 Release of Personally Identifiable Information or Education Records — Exceptions to Consent Requirements.

- (1) The University may permit the access to or release of a student's education records or personally identifiable information contained therein without the written consent of the student to the following parties:
- (a) University officials, including faculty members, when the information is required for a legitimate educational purpose within the scope of the recipient's official responsibilities with the University and will be used only in connection with the performance of those responsibilities;
 - (b) Federal or state officials requiring access to education records in connection with the audit or evaluation of federally or state supported educational programs or in connection with the enforcement of federal or state legal requirements relating to such programs. In such cases the information required shall be protected by the federal or state officials in a manner which shall not permit the personal identification of students or their parents to other than those officials, and such personally identifiable data shall be destroyed when no longer needed for the purposes for which it was provided;
 - (c) Agencies or organizations requesting information in connection with a student's application for, or receipt of, financial aid;
 - (d) Organizations conducting studies for or on behalf of the University for purposes of developing, validating or administering predictive tests, administering student aid programs, or improving instruction, if such studies are conducted in a manner which will not permit the personal identification of students by persons other than representatives of such organizations, and the information will be destroyed when no longer needed for the purposes for which it was provided;
 - (e) Accrediting organizations in order to carry out their accrediting functions; or
 - (f) Any person or entity authorized by judicial order or lawfully issued subpoena to receive such records or information, upon condition that the student is notified of all such orders or subpoenas in advance of compliance therewith by the University. Any University employee or official receiving a subpoena or judicial order for education records or personally identifiable information contained therein shall immediately notify the Assistant Attorney General representing the University.
- (2) Education records of a student or personally identifiable information contained therein which are released to third parties, with or without the consent of the student involved, shall be accompanied by a written statement indicating that the information cannot subsequently be released in a personally identifiable

form to any other party without the written consent of the student involved.

(3) The University shall maintain a record, kept with the education records of each student, indicating all parties, other than those parties specified in WAC 516-26-080(1)(a), which have requested or obtained access to the student's education records, and indicating the legitimate interest that each such party has in obtaining the records or information contained therein. This record of access shall be available only to the student, to the employees of the University responsible for maintaining the records, and to the parties identified under WAC 516-26-080(1)(a) and (c).

WAC 516-26-085 Release of Information In Emergencies.

- (1) The Vice President for Student Affairs or his designee may, without the consent of a student, release the student's education records or personally identifiable information contained therein to appropriate parties in connection with an emergency if the knowledge of such information is necessary to protect the health or safety of the student or other persons.
- (2) The following factors should be taken into consideration in determining whether records may be released under this section:
- (a) The seriousness of the threat to the health or safety of the student or other persons;
 - (b) The need for personally identifiable information concerning the student to meet the emergency;
 - (c) Whether the parties to whom the records or information are released are in a position to deal with the emergency; and
 - (d) The extent to which time is of the essence in dealing with the emergency.
- (3) If the University, pursuant to subsection (1) of this section, releases personally identifiable information concerning a student without the student's consent, the University shall notify the student as soon as possible of the identity of the parties and to whom the records or information have been released and of the reasons for the release.

WAC 516-26-090 Directory Information.

- (1) The University may release "directory information" concerning a student to the public unless the student requests in writing of the Vice President for Student Affairs that the student's directory information not be released except as provided in WAC 516-26-070, 516-26-080 or 516-26-085.
- (2) The term "directory information" shall include information relating to the student's name, local and home address, telephone listing, dates of attendance, degrees and awards received, participation in officially recognized sports and activities, weight and height if a member of an athletic team, and the most recent previous educational institution attended.

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WAC 516-26-095 Destruction of Student Records.

Except as otherwise provided by law, the University shall not be precluded under this chapter from destroying all or any portion of a student's education records, provided that no education record to which a student has requested access shall be removed or destroyed by the University prior to providing the student with the requested access.

WAC 516-26-100 Notification of Rights Under This Chapter.

The University shall annually notify students currently in attendance of their rights under this chapter and the Family Educational Rights and Privacy Act.

The notice shall include a statement that the student has a right to each of the following:

- (1) Inspect and review the student's education records;
- (2) Request the amendment of the student's education records to ensure that they are not inaccurate, misleading, or otherwise in violation of the student's privacy or other rights;
- (3) Consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that these regulations and the regulations promulgated pursuant to the Family Educational Rights and Privacy Act allow;
- (4) File a complaint with the United States Department of Education under 34 CFR 99.64 concerning alleged failures by the University to comply with the requirements of the act;
- (5) Information concerning the cost to be charged for reproducing copies of the student's records; and
- (6) Obtain a copy of the regulations in this chapter (Chapter 516-26 WAC).

The notice shall indicate the places where copies of these regulations are located.

Appendix F STUDENT ACADEMIC GRIEVANCE POLICY AND PROCEDURES

1. Policy

Students have protection, through orderly procedures, against arbitrary or capricious actions or decisions by their instructors; students also have protection against erroneous actions or decisions by academic units. At the same time, students are responsible for achieving and maintaining the standards of academic performance and excellence which are established by their instructors and for complying with all relevant policies, standards, rules and requirements which are formulated by the University and the University's academic units. A student wishing to pursue an academic grievance must use the following grievance procedure once having received notice of the

action or decision which gives rise to the grievance. The emphasis of the grievance procedures is on informal resolution of the grievance. Grievances which involve hearings before the Student Academic Grievance Board should be rare.

Students who do not meet the deadlines given in the procedures shall be deemed to have waived their right to appeal. If any officer of the University or the Board fails to meet the deadlines established, the student may continue to the next level in the procedures. The deadlines are set to provide a rapid resolution of the grievance. However, unforeseen circumstances such as illness or absence from the campus may result in an extension of a deadline. Such extensions shall be recorded in writing by the unit head, dean or secretary to the Board, as appropriate.

2. Academic Grievances

Academic grievances are limited to the following:

- (1) A claim by the student that an assigned grade is the result of arbitrary or capricious application of otherwise valid standards of academic evaluation, or
- (2) A claim by the student that the standards for evaluation are arbitrary or capricious, or
- (3) A claim by the student that the instructor has taken an arbitrary or capricious action which adversely affected the student's academic progress, or
- (4) A claim by the student that an academic unit has reached a decision not in keeping with University policy or taken an erroneous action which adversely affects the student's academic standing or academic career.

Note: Where an action is claimed to be in violation of affirmative action, a separate set of procedures are used (see Appendix H, Affirmative Action Student Grievance Procedures).

3. Procedures

A. Informal Resolution

A student with an academic grievance against an individual instructor shall first thoroughly discuss the matter with the instructor involved. The student must meet with the instructor within ten (10) days of receiving written notification of the action or decision which gives rise to the grievance. In the case of absence from the campus of either of the parties, the student shall inform the academic unit head, in writing, of the existence of the grievance and the unit head shall arrange for consultation between the parties concerned at the earliest possible opportunity. Should the faculty member be on extended leave, or have resigned from the University, the unit head shall act for the instructor.

The instructor and the student should make a good faith effort to resolve the grievance. Grievances resolved at this stage do not require a written record unless the resolution involves a

grade change. Grade changes require the approval of the department chairperson (or dean in Huxley and Fairhaven), who then directs the Registrar to make the specific grade change. A copy of the memo to the Registrar will be sent to the student and faculty member.

If a resolution is not achieved between the student and the instructor within five (5) days after the first meeting between the student and instructor, the student has five (5) days to ask the academic unit head, or designee, to attempt to informally resolve the issue. The unit head, or designee, will meet with both parties to clarify the issues and attempt to resolve them. If the issue is resolved within five (5) days after the student has sought the assistance of the unit head, the unit head, or designee, shall prepare an informal agreement, in writing, for both sides to sign. No reasons need be given. Such an agreement, once signed by both parties, may not be appealed.

If an agreement cannot be reached within the five-day review period, and the student still wishes to pursue the grievance, the student shall request the unit head or designee to present the case to the dean of the college. The unit head has five (5) days to present the material to the dean. The material presented should include all of the documents relevant to the case and an analysis of the issues. The dean shall continue the process of seeking an informal resolution and collect more material as necessary. If a resolution can be reached, the dean shall prepare an informal agreement as above. Such an agreement, once signed by both parties, may not be appealed.

If the student has a grievance against an academic unit, the student shall first thoroughly discuss the matter with the unit head. The student must meet with the unit head within ten (10) days of receiving notification of the action or decision of the unit which gives rise to the grievance. If the grievance is not resolved within ten (10) days of the initial meeting between the student and the unit head, the student may request, in writing, further review by the dean of the college, following the procedures for grievance against individual faculty.

If the grievance against a faculty member or academic unit is not resolved at this stage, the dean shall make a decision based on the merits of the case. The reasons for the decision shall be in writing and shall be given to both the student and the instructor. The dean's decision must be rendered and given to both parties within five (5) days of receiving the material. The written decision of the dean will include: (1) a statement of the grievance, (2) a statement of the efforts made to resolve the issue and (3) a statement of action, with reasons.

Either side may appeal a decision of the dean to the Student Academic Grievance Board. The appeal must be filed within five (5) days after the receipt of the dean's written decision.

B. Appeal to the Board

(1) *Composition of the Board.* The Student Academic Grievance Board shall consist of six (6) members: three students and three faculty. An administrator appointed by the Vice President and Dean of Student Affairs will serve as executive secretary to the Board and will be responsible for the arranging of meetings and the collection and maintenance of necessary documents. The Board, for any hearing, will be selected in the following manner:

- (a) The pool of Board members shall consist of six (6) faculty appointed by the Faculty Senate for three-year terms; six (6) undergraduate students and six (6) graduate students appointed by the Associated Students Board for one-year terms.
- (b) Each party to the grievance shall have the right to reject two faculty and two students from the list of the pool of Board members.
- (c) From the remaining members, the Vice President for Academic Affairs or designee shall select the Board members for the hearing, and shall appoint the chairperson. If the grievance involves a graduate student, at least two of the Board members must be graduate students.

(2) *Appeal Procedures*

(a) *Lodging appeal.* The party appealing to the Board shall present the appeal to the executive secretary of the Board within five (5) days after issuance of the dean's written decision. The letter of appeal shall state the basis of the appeal. The secretary will send a copy of the appeal to the second party to the grievance, who may respond in writing. All materials used at any stage of the grievance shall be made available to both parties and to the dean.

(b) *Mediation.* A mediator may be appointed by the Vice President for Academic Affairs or designee from a list of four persons previously appointed by the Faculty Senate. The mediator has five (5) days from the time of appointment to attempt to resolve the issue to the satisfaction of both parties; otherwise the appeal proceeds to a hearing.

(c) *Hearing.* A hearing shall be called within fifteen (15) days of the filing of the appeal unless both parties agree to a delay, or unless the grievance is resolved through mediation.

A quorum is four (4) members of the Board. Both the student and the instructor may be represented by an advocate.

Both the student and the faculty member shall be invited to present oral arguments which shall be restricted to matters already in the record. New causes for grievance may not be raised at the hearing. Members of the Board may question either party.

No testimony may be taken by the Board unless both parties are present, or have waived their right to be present.

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At the conclusion of the hearing, the Board shall, in writing,

- (a) Request additional information, to be considered at a future hearing, or
- (b) Find that there is insufficient cause to overrule the dean's decision and recommend to the Vice President for Academic Affairs that it be upheld, or
- (c) Find that there is sufficient cause to modify or overrule the dean's decision and recommend appropriate action to the Vice President for Academic Affairs.

C. Appeal to the Vice President for Academic Affairs

Either party may appeal to the Vice President for Academic Affairs from a decision by the Board. Such appeal shall be made, in writing, within five (5) days after the issuance of the Board's written decision. The Board chairman has the right to make a written response to the appeal within five (5) days of filing the appeal. The Vice President may overrule or modify the decision of the Board only if that decision was arbitrary, capricious, based on insufficient information, or was beyond the scope of these procedures as defined in Section 2. The decision of the Vice President for Academic Affairs is final. Copies of the Vice President's decision will be sent to the student, faculty member, unit head, dean, chairperson and secretary of the Board.

D. Maintenance of Records

All written statements and testimony considered in the grievance process and a copy of the final written decision of the Board or Academic Vice President shall be retained on file in the Academic Vice President's office for a period of one (1) year following final disposition of the grievance.

Where a resolution or decision results in a grade change, the unit head shall inform the Registrar of the grade change.

4. Definitions

These definitions are for the purposes of these procedures only:

- (1) "Academic unit" is Huxley or Fairhaven college or a department within the colleges of Arts and Sciences, Fine and Performing Arts, Business and Economics, or School of Education.
- (2) "Unit head" is the department chairperson, or, in the case of Huxley and Fairhaven colleges, the chairperson of the college personnel committee.
- (3) The unit head "designee" can be any faculty member or administrator from the academic unit.
- (4) Reference to "days" means "school days" and includes the registration period and the week in which exams are scheduled.

Appendix G CODE OF ETHICS FOR THE FACULTY OF WWU

This Code of Ethics was adopted by vote of the faculty of Western Washington University on April 15, 1983, and was endorsed for inclusion in the Faculty Handbook by the Board of Trustees on May 5, 1983.

Preface

Membership in the academic community and in the faculty of Western Washington University imposes upon faculty a range of obligations beyond that currently accepted by the members of the wider society. These obligations, which ensue from the faculty member's commitment to learning and to the role of teacher, include obligations to respect the dignity of others; to acknowledge the right of others to express differing opinions; to foster learning; to defend intellectual honesty, freedom of inquiry, learning and teaching; and to support freedom of expression on and off campus. An obligation to protest injustices and seek correction of inequities carries with it the corollary responsibility to do so in ways which do not intentionally, persistently or significantly impede the functions of the institution.

A professional faculty, as guardian of academic values, serves as the instrument of disciplinary action against unjustified assaults upon those values by its own members. The traditional faculty role of limiting participation in disciplinary action to assurance of academic due process is inadequate to protect the conditions enumerated in the 1940 AAUP Statement on Academic Freedom. This function must be preserved but must also be strengthened by faculty assumption of responsibilities in adopting, practicing and promoting adherence to those principles of conduct essential to academic endeavor.

In recognition of this responsibility, the faculty of Western Washington University have adopted this Code of Ethics as a guide for present and future members of the University faculty.

Section 1

Western faculty members, guided by a deep conviction of the worth and dignity of their role in the advancement and dissemination of knowledge, recognize the special responsibilities placed upon them as scholars. Their primary responsibility to their respective subjects is to seek and to state the truth as they, in consequence of their academic competence, perceive it. To this end faculty energies are devoted to developing and improving their scholarly competence. They accept the obligation to exercise self-discipline and judgment in using, extending and transmitting knowledge. They practice intellectual honesty. When subsidiary interests are followed, they must ensure that these interests do not seriously compromise freedom of inquiry nor the fulfillment of academic responsibilities.

Section 2

As teachers, the Western faculty encourage the free pursuit of learning by students, and demonstrate by example the best scholarly standards of their respective disciplines. The faculty respect students as individuals and adhere to their designated role as intellectual guides and counselors, make every effort to foster honest academic conduct and to assure that evaluations of students reflect their actual performance. The faculty avoid and condemn sexual and other forms of harassment, intimidation, and exploitation of students. The confidential nature of the relationship between professor and student is respected, and any exploitation of students for private advantage is avoided by the faculty member who acknowledges significant assistance from them. Faculty strive to help students develop high standards of academic competency and respect for academic freedom.

Section 3

A teacher's mastery of his or her subject and scholarship entitles the teacher to a classroom and to freedom in the presentation of a subject. Faculty thus avoid injecting into classes material which has no relation to the subject and conscientiously develop the content of a course as announced to students and as approved by the faculty in their collective responsibility for the curriculum.

Section 4

As a colleague, the Western faculty member has special obligations that derive from membership in the community of scholars. These include respect for, and defense of, the free inquiry of associates and, in the exchange of criticism and ideas, the respect for the opinions of others. Faculty members acknowledge the contributions of their colleagues and strive to be fair in their professional judgment of colleagues. Each accepts his or her share of faculty responsibilities for the governance of this institution.

Section 5

As a member of this institution, each Western faculty member seeks above all to be an effective teacher and scholar. Although all regulations of the institution that do not contravene academic freedom are observed by the faculty, the right to criticize institutional regulations and to seek their revision is maintained. The amount and character of work done outside the institution is determined by the faculty member with due regard to the paramount responsibilities within it. When considering the interruption or termination of service, the faculty member recognizes the effect of such decisions upon the program of the institution and gives due notice of such intentions.

Section 6

As a member of a larger community, the Western faculty member maintains the same rights and obligations as does any other citizen. The

urgency of these obligations is measured in the light of responsibilities to the discipline, to the students, to the profession, and to the institution. When speaking or acting as a private individual, each faculty member avoids creating the impression of speaking or acting for the University. As a citizen engaged in a profession that depends upon freedom for its integrity and welfare, the Western faculty member exercises a special obligation to promote conditions of free inquiry and to further public understanding of academic freedom.

Section 7

Academic freedom has traditionally included the instructor's full freedom as a citizen. Most faculty members face no insoluble conflicts between the claims of conscience and of social and political action, on the one hand, and the claims and expectations of students, colleagues and the institution on the other. If such conflicts become acute, and the instructor's attention to obligations as a concerned citizen precludes the fulfillment of academic obligations, he or she should either request a leave of absence or resign his or her academic position.

Section 8

The expression of dissent and the attempt to produce change on campus and in the larger society are legitimate, but they must be carried out in ways which do not violate academic freedom, injure individuals, disrupt the classes of colleagues, intrude on the individual rights of others or damage institutional facilities or private or public property. All members of the academic community and visitors to the University must be assured of the right to be heard in an atmosphere of free inquiry and in a situation devoid of violence.

Section 9

It is presumed that members of the Western faculty will find this Code of Ethics an adequate guide for the choices they must make in the fulfillment of their academic functions. If rules are needed to implement the principles inherent in this Code, they shall be developed by the faculty within the spirit of the Code, shall be in accordance with the 1940 AAUP Statement on Academic Freedom, and shall carry full provision for due process.

Appendix H AFFIRMATIVE ACTION STUDENT GRIEVANCE PROCEDURE

Persons who have questions or need assistance in processing a grievance should contact the Center for Equal Opportunity, Old Main 375, phone (206) 676-3306.

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A person who believes he/she has been discriminated against by the University because of race, color, religion, national origin, sex, age, handicap, marital status, sexual orientation, Vietnam era or disabled veteran status is urged to utilize the internal grievance procedure provided by the University through the Center for Equal Opportunity as soon as possible after the alleged act of discrimination giving rise to the grievance. The grievant must indicate under what federal or state regulation or University equal opportunity policy he/she is alleging discrimination.

A. Informal Resolution

1. Any person may contact the Center for Equal Opportunity for informal discussion, advice and assistance. These contacts are kept confidential. The director of the Center for Equal Opportunity or designee shall act as facilitator upon request.
2. Affirmative action advocates are also available to assist the individual in understanding her/his options in seeking corrective or compensatory measures.
3. The grievant may choose to be assisted by an affirmative action advocate during informal procedures and throughout all steps of the formal grievance procedure. The names of the advocates are available through the Center for Equal Opportunity.
4. The director of the Center for Equal Opportunity or designee shall attempt to resolve the complaint informally by talking with concerned parties and suggesting an appropriate resolution. If the grievant is not satisfied with the resolution, he/she may proceed to the Formal Investigative Resolution or utilize complaint procedures with outside agencies.

B. Formal Investigative Resolution

1. Any person may file a formal grievance against any employee, department or unit of the University if he/she believes illegal discrimination has taken place by filing a written description of the alleged act of discrimination with the Center for Equal Opportunity on a form provided by the Center. Statements should be as detailed and accurate as possible and must specify under what federal or state regulation or University Equal Opportunity policy he/she is alleging discrimination.
2. The grievant shall receive acknowledgement of the filing of the grievance, and the respondent and the Vice President in charge of the employee, department or unit of the University shall be notified of the grievance within three working days.
3. Within 10 working days the director of the Center for Equal Opportunity shall meet with the grievant and her/his advocate/observers and the respondent and her/his observer (if any) for further information gathering. The director shall again attempt to resolve the grievance with both parties. If within 10 working days of the meeting

with both parties the resolution is not satisfactory to the grievant, the grievant may ask that her/his appeal rights be invoked.

4. If the individual appealing has appeal rights under WAC Chapter 516-08, the hearing procedure contained shall be utilized. Other appeals shall be heard by the five-member Adjudication Committee.

The Adjudication Committee shall receive the director's report and case file.

The committee shall operate under hearing procedures filed with the Center for Equal Opportunity.

The Adjudication Committee shall hold its initial meeting within five working days and shall forward its written recommendations to the President with a copy to the grievant and the respondent within 15 working days from the initial meeting.

5. Within 15 working days of receipt of the recommendations the President shall indicate her/his intentions. The President may accept the recommendations of the Adjudication Committee, may reject the recommendations, or may modify the recommendations. If the recommendations are rejected, the President shall state in writing the reasons for such rejection. If the recommendations are modified, the President shall state in writing the reasons for such modification. The President may make a final decision for the University for payments of \$2,000 or less to the grievant or group of grievants; however, the Board of Trustees has reserved the authority to approve affirmative action awards for amounts in excess of \$2,000, and the President shall notify the Board of Trustees whenever the resolution of a complaint involves promotion, tenure, back pay or the initial appointment of an employee in order that the Board may take appropriate action consistent with the Board of Trustees Handbook.

6. Deadlines may be extended provided that the length of such extensions is agreed to in writing by both the complainant and the respondent.

Deadlines shall be extended by the director of the Center for Equal Opportunity when individuals who are required to participate at certain steps in the procedure are unavailable due to absence from campus during summer or periods between academic sessions.

C. Alternative Formal Resolution

The grievant may choose to utilize the formal grievance procedure of her/his group such as the faculty, student or labor agreement procedure. A grievant choosing an alternative grievance procedure and not finding the satisfaction sought may not then turn to the formal affirmative action grievance procedures outlined in this document. It is the prerogative of the body creating the alternative grievance procedure whether it will entertain a grievance which has previously been heard under the affirmative action grievance procedures.

D. Handicap Grievance

A person denied access to a program or activity or employment because of a determination that that individual's handicap disqualifies her/him may appeal the decision to an ad hoc handicap grievance tribunal consisting of a student and an employee (faculty if the dispute concerns an academic program), one of whom is handicapped, and an expert in handicap rehabilitation to be appointed by the President.

A person who has been refused admission to Western Washington University and who believes his/her handicap has affected his/her grade point, test scores or other criteria for admission in a way not reflective of true ability may appeal the admission decision to the University Admissions Committee. When a person appeals an admission decision on the basis of handicap, a person, usually a member of the faculty, with expertise in the rehabilitation of the handicap manifest by the appellant will sit as a voting member of the University Admissions Committee to hear the appeal.

The decision of the tribunal is final unless overturned by the President.

E. Outside Agencies

A person who believes that s/he has been the subject of discrimination may choose to see a lawyer regarding civil redress or may choose to file a discrimination grievance with the following agencies. These agencies require grievances to be filed within 180 days of the alleged act of discrimination.

Washington State Human
Rights Commission
1516 Second Avenue, Suite 400
Seattle, WA 98101
Phone: (206) 464-6500

Department of Education,
Office of Civil Rights
915 Second Avenue
Mail Code 10-9010
Seattle, WA 98174-1099
Phone: (206) 442-1635

Office of Federal Contract Compliance
Room 3048 Regional Office or
Room 1079 Area Office
909 First Avenue
Seattle, WA 98174
Phone: (206) 442-4508

Equal Employment
Opportunity Commission
1321 Second Avenue
7th Floor, Arcade Plaza
Seattle, WA 98101
Phone: (206) 442-0968

U.S. Department of Labor, Wage
and Hour Division ESA
909 First Avenue, Room 1060
Seattle, WA 98174
Phone: (206) 442-4482

Appendix I PARKING AND TRAFFIC

It is recommended that vehicles not be brought to the campus unless absolutely necessary. The geographical location of the campus makes the parking currently available on and around the campus inadequate to cover the desires of the University community.

Use of alternative means of transportation is encouraged. The city of Bellingham has an excellent transit system which has convenient runs through campus. Hours of operation (subject to change) are 7 a.m. to 7 p.m. Monday through Saturday. In addition, a shuttle service, operated by the Office of University Residences, runs seven nights a week from 7 to 11 p.m. For commuters, carpool ride matching is available through the Washington State Department of Transportation. Applications are available at the University Parking Office.

Western Washington University has established rules and regulations governing parking under Washington State Administrative Code 516-12. All students who utilize parking facilities on campus are required to purchase a parking permit and register their car (or cars), motorbike or motorcycle at or before the time of official registration. Early application is recommended. Forms are available beginning late May for an assignment for the subsequent school year. The current parking permit fees vary from \$14 to \$28 plus state sales tax per quarter depending on the location of the parking lot. These rates are subject to change. Violators of parking regulations are towed away. For further information, contact the Parking Services Office on campus.

Appendix J SATISFACTORY ACADEMIC PROGRESS POLICY FOR FINANCIAL AID

Introduction

Section 484 of the Higher Education Act (HEA), as amended, requires that a student be maintaining satisfactory progress in the course of study that s/he is pursuing, according to the standards and practices of the institution in which s/he is enrolled, to receive financial aid under the financial assistance programs authorized by Title IV by the HEA. The state of Washington also requires satisfactory progress for receipt of Washington state student aid funds.

Statement of Policy

Students have a responsibility to progress at a standard rate toward a degree objective. To be eligible to receive aid a student must be making satisfactory progress toward a degree or certificate regardless of whether s/he has previously received financial assistance. The standard of

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academic progress must include a student's total academic history at Western. Each student is also required to maintain a grade point average which meets the University requirements to allow continuation at WWU. The grade point requirements of the University are listed in the University catalog.

The Department of Student Financial Resources is responsible for establishing and monitoring the **minimum** level of progress acceptable for this policy.

Monitoring of Satisfactory Progress

Normal Academic Progress is defined as satisfactory completion of 15 credit hours per academic quarter for undergraduate and 12 credit hours per quarter for master's degree candidates.

First time financial aid applicants will have their previous academic record measured for satisfactory completion of 80 percent of the credit hours attempted at Western. Students averaging 80 percent satisfactory completion of credits attempted will be eligible to be considered for financial aid.

Minimum credit requirements for current students. Full-time students must satisfactorily complete a minimum of 80 percent of normal academic progress to be considered in good standing and eligible for financial assistance. Progress will be monitored quarterly and annually. Full-time undergraduate students must complete a minimum of 12 credit hours per quarter in order to be considered in good standing. For master's degree candidates the requirement is 10 hours quarterly.

In an attempt to allow flexibility during the academic year, Student Financial Resources will allow for dropping hours on a quarterly basis and making them up over the course of the academic year. As long as the student does not drop below 6 credit hours of satisfactorily completed course work in any one quarter (5 hours for master's degree candidates), s/he may continue to be considered for student financial aid. At the close of spring quarter, students will be monitored against the minimum credit requirements.

Maximum time frame. A student will be allowed to attempt credit hours equal to 125 percent of the minimum credit hour requirement for the degree or certificate program in which the student is enrolled. Once the student has attempted 125 percent s/he is no longer eligible to receive assistance for this degree or certificate granting program.

Part-time students. Satisfactory academic progress of part-time students will be based on a minimum credit requirement and a maximum time frame requirement as with full-time students. Part-time students must satisfactorily complete a minimum of 6 credit hours each term in order to continue to be eligible for assistance. Once the part-time student has attempted 125 percent of the minimum credit hour requirement for his or her degree program, the student will have exhausted eligibility for assistance.

Consequences of Unsatisfactory Progress

Probation

Probationary students may continue to receive financial aid. Students not completing 80 percent of normal academic progress on a quarterly basis may be continued on aid if at least 6 (5 for graduate students) credit hours were completed satisfactorily. These students are considered to be on financial aid probation although there will be no formal notification.

Suspension

Students not meeting the appropriate standard will be placed on financial aid suspension. These students are not eligible to receive financial assistance by or through Western Washington University. Students who have been awarded financial aid will have all financial assistance canceled immediately.

Repayment of Aid

Due to time constraints, it is not always possible to cancel financial aid checks (for students who have lost eligibility) before a student is able to secure the proceeds. It is the responsibility of each University student to be aware of the academic progress standard which must be maintained for continued eligibility for receipt of financial aid. It is each student's responsibility to determine whether s/he has met or not met the standard established. Any student not meeting the required standard, who subsequently secures the proceeds of financial assistance for which s/he is not eligible, will be immediately required to repay such funds to the financial aid accounts. Students owing a repayment are no longer eligible to receive financial assistance.

Reinstatement of Eligibility

By Petition

All students have the right to appeal, by petition, their suspension from eligibility for financial assistance. Appeals of probation status will not be considered. Petition forms are available from the Department of Student Financial Resources, Old Main 240.

Essentially, the suspended student explains on the petition form why s/he was not able to complete the minimum number of credit hours required to retain financial aid eligibility. It is the student's responsibility to provide any documentation that will verify or support the claims made in the petition. For example, if a student received incomplete grades due to medical problems, s/he should submit a letter from a physician or the Health Center to verify the medical condition. It would also be appropriate to submit a statement from the instructor(s) regarding arrangements which have been made to complete the course work. The completed petition should be returned to the Department of Student Financial Resources. An Appeals Committee will review each petition and make recommendations to the director or his designee regarding disposition of the petition. Students will be notified of the decision in writing.

Any student whose financial aid suspension has been removed, following a petition, may be considered for financial assistance. However, any financial aid awarded to that student upon reinstatement will be based solely upon the student's eligibility and funds available at that time.

By Additional Academic Progress

Any full-time student whose petition for reinstatement is denied may return to good standing by satisfactorily completing 15 credit hours in one quarter (12 credit hours if a master's candidate). The student would have demonstrated the ability to perform at the normal full-time course load, would have met the minimum requirement for the additional quarter of attendance (12 credit hours) and would have made some progress toward the deficit which initially caused termination of eligibility. Upon completion of the 15 credit hours, the student should submit an additional petition for reinstatement to good standing.

A part-time student whose petition for reinstatement is denied may return to good standing by completion of 6 credit hours in one quarter.

By Summer Quarter Attendance

It is possible for a student to use the summer quarter to make up the deficit created during the academic year as follows:

1. If financial aid was not received for the summer quarter attendance, all credit hours satisfactorily completed may be credited toward making up the deficit.
2. If financial aid is received for attending summer quarter, the student will be required to complete an additional 12 credit hours (10 for master's degree candidates) to remain in good standing. Any credit hours completed beyond 12 may be credited toward making up the deficit.

Definitions

Hours Attempted

Total hours attempted are defined as:

1. Registered credit hours as of the add/drop deadline of each quarter, or
2. If the student received financial aid, the total hours attempted are defined as the minimum hours required for financial aid disbursement, or actual hours enrolled, whichever is higher.

In no case will the student be penalized for enrolling in more than the normal full-time course load. The normal full-time course load is 12 credit hours for master's degree candidates and 15 credit hours for all others.

To be included in hours attempted and hours completed, a course must be recorded on the WWU official transcript or transferred to Western through the International Student Exchange Program (ISEP). A repeated course will be counted as an attempted course each time the course is taken; however, college credit for the course will be counted only once

Academic Year

The academic year established at WWU for the purpose of monitoring satisfactory progress will be fall quarter through spring quarter of each year.

Satisfactory Completion of a Course

The grades A, B, C, D, S and P identify successful completion of a course. An incomplete grade (K) will not count as completed course work until a final grade is awarded and posted by the Registrar.

Undergraduate Student

For purposes of this policy, an undergraduate student is one who has not received a baccalaureate degree or is pursuing a second undergraduate major.

Post-Baccalaureate Student in a Certification Program

A post-baccalaureate student in a certificate program is one who has received a baccalaureate degree and has been admitted to a program leading to certification.

Master's Degree Candidate

A master's degree candidate is a student who has received a baccalaureate degree and is admitted to a master's degree program at Western.

**Appendix K
POLICY CONCERNING
ALCOHOL AND OTHER
DRUGS**

The Federal Drug-Free Workplace Act of 1988 and the Federal Drug-Free Schools and Communities Act amendments of 1989 require that universities promote a drug-free environment through adoption and implementation of a policy and program designed to educate the university community about the dangers of substance abuse and to prevent the unlawful possession, use or distribution of illicit drugs and alcohol by students and employees on university property or while involved in university business or activities.

Western Washington University values a substance abuse-free lifestyle for students, faculty and staff. It holds this value in support of academic excellence, work performance and quality of life as well as for the future well-being of all members of this community.

Ninety percent of adult Americans, including college students, use drugs (including alcohol). A significant number (32-40%) of adults have drug (including alcohol) abuse or dependency problems. Improper use of drugs affects academic ability, work performance, health and personal safety. Additionally, the safety of others may be placed at risk by an individual under the influence of substances and both personal and professional relationships can suffer.

Appendices

Differences of opinion and freedom of choice are concepts which are essential parts of the university educational tradition. This freedom requires the exercise of personal responsibility, including the obligation to make informed decisions regarding the use of drugs (including alcohol). It also requires personal responsibility for dealing with one's own abuse when it is identified.

Western Washington University acknowledges its responsibility to guarantee that appropriate information and support are easily accessible to all members of the university community. Western Washington University accepts its obligation to foster awareness about the use and misuse of these substances, to provide appropriate intervention when alcohol or other drugs are misused by members of the community and to support members of this community in managing the consequences of drug (including alcohol) misuse.

At the same time, the University will uphold those state and federal laws which prohibit the

unlawful manufacture, distribution, dispensing, possession, sale or use of controlled substances (which include but are not limited to marijuana, LSD, psilocybin mushrooms, cocaine, heroin and other opiates and steroids) and the misuse of alcohol and prescription drugs. It is required that all students and employees comply with these laws. Action will be taken on any violation of State and Federal law or University regulations which occurs in or on property controlled or owned by Western Washington University or while involved in University business or activities.

In meeting these responsibilities, Western Washington University has established this policy regarding the use of alcohol and other drugs and will annually distribute this information to all students, staff and faculty.

A complete set of University guidelines regarding implementation of this policy may be obtained from the Office of the Vice President for Student Affairs.

POLICY OF NON-DISCRIMINATION

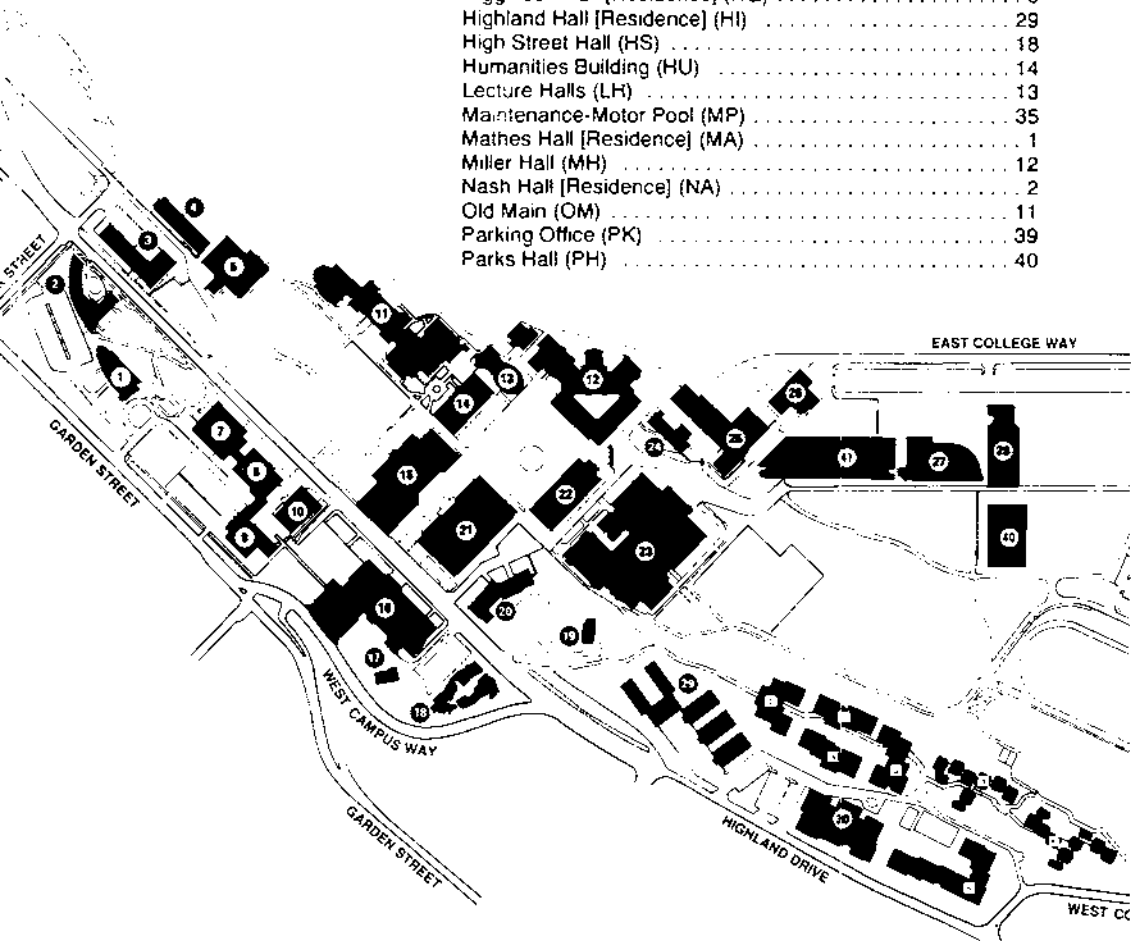
Western Washington University is committed to assuring that all programs and activities are readily accessible to all eligible persons without regard to their race, color, religion, national origin, sex, age, marital status, or the presence of any physical, sensory or mental handicap. The laws under which the University operates include:

- Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color or national origin in any program or activity receiving federal financial assistance.
- Title IX of the Educational Amendments of 1972, which prohibits discrimination based on sex in all federally assisted education programs.
- Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against qualified persons having any physical, sensory or mental handicap by recipients of federal financial assistance.
- The Washington State Law Against Discrimination RCW 49.60, which prohibits discrimination because of race, creed, color, national origin, sex, marital status, age or the presence of any sensory, mental or physical handicap.

Persons having questions regarding University policies relating to these laws should contact the Center for Equal Opportunity, Old Main 375, phone (206) 676-3306.

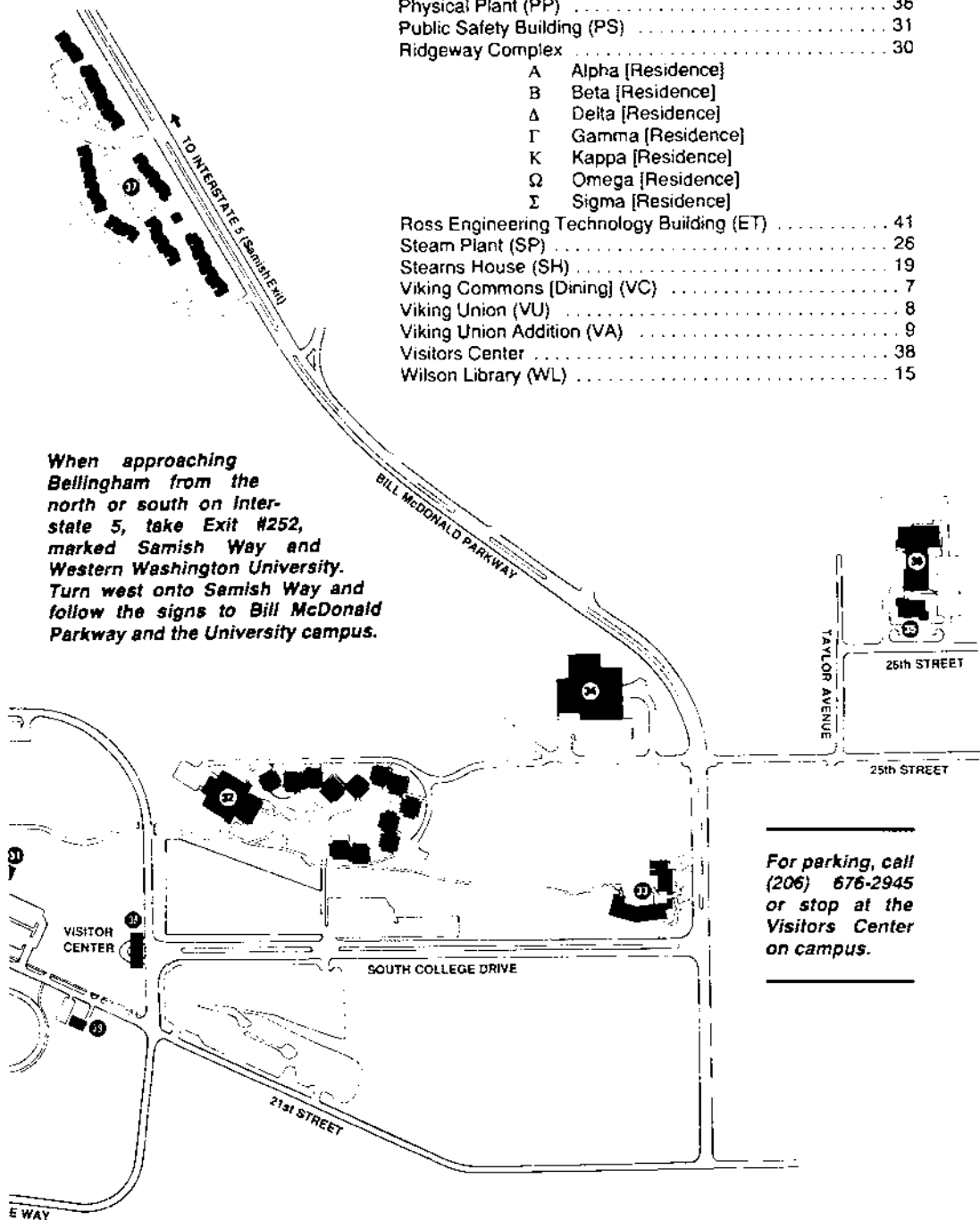
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When approaching Bellingham from the north or south on Interstate 5, take Exit #252, marked Samish Way and Western Washington University. Turn west onto Samish Way and follow the signs to Bill McDonald Parkway and the University campus.



For parking, call (206) 676-2945 or stop at the Visitors Center on campus.

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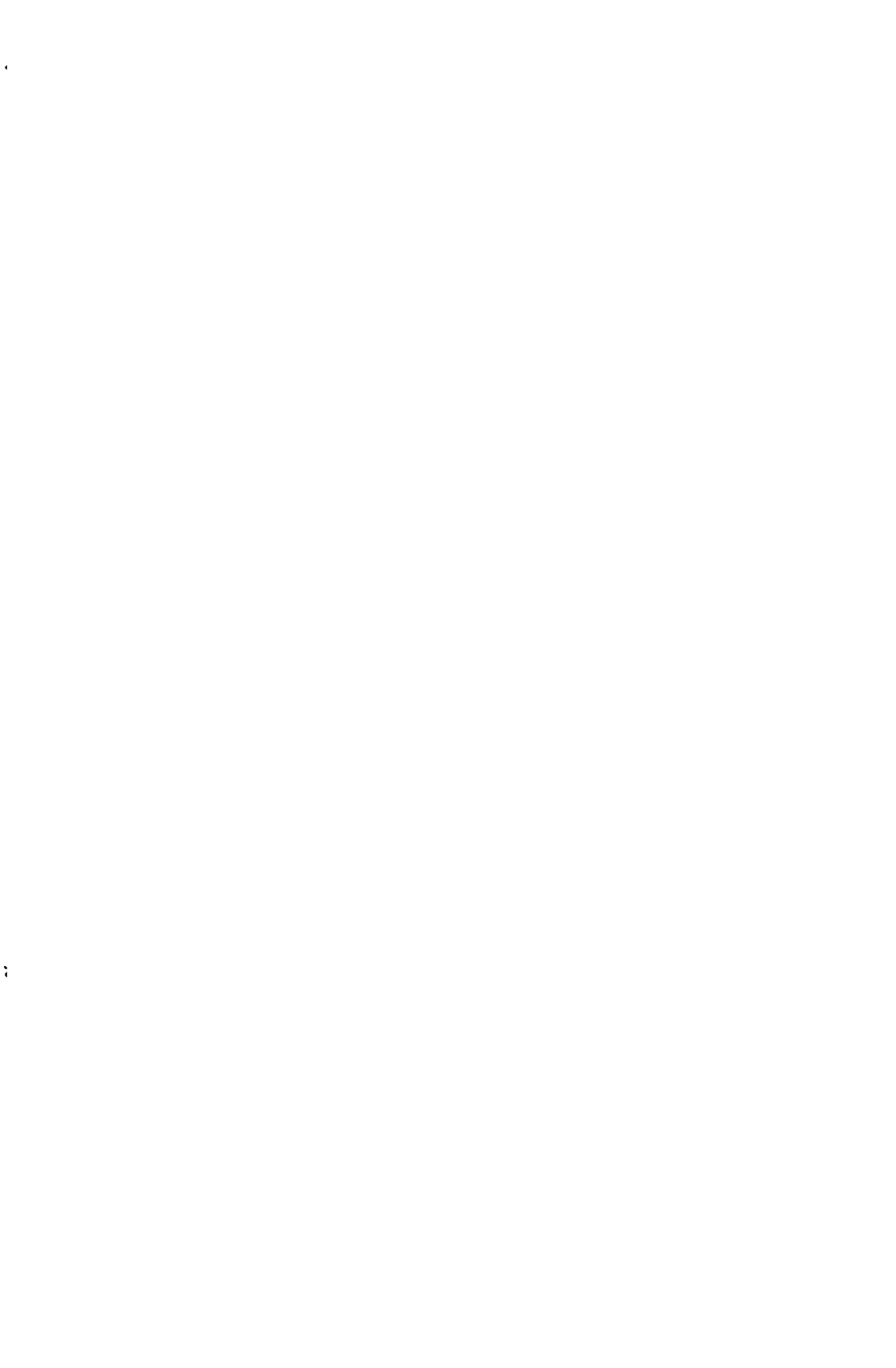
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Bellingham, Washington 98225

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